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Appendix A1: Letter from Governor Perdue to Secretary Duncan

STATE OF GEORGIA
OFFICE OF THE GOVERNOR
ATLANTA 30334-0900

January 8, 2010

Sonny Perdue
GOVERNOR

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

I write to express my full support for Georgia's Race to the Top application.

As I joked with you when you initially proposed the idea of Race to the Top to a small group of governors at the February 2009 National Governor's Association conference, I believe your team must have been looking at Georgia's playbook when they created the Race to the Top guidelines. For years, we have been working to change the culture in education to one that focuses on performance and outcomes, from the current culture of compliance that has dominated education for far too long.

By focusing on outcomes, we have made great gains in education in Georgia. When I first took office, I worked to bring attention to our state's dismal graduation rate which was just over 63 percent. We placed a graduation coach in every middle and high school whose mission is to identify and work with at-risk students to help them stay on track and find a path to graduation. This year, Georgia posted its highest graduation rate in history at over 78 percent and we are just within reach of the 80 percent goal we set for 2010.

My philosophy on the state's role in education has always been that we should provide necessary resources and set high standards for accountability, and then get out of the way to let the locals figure out the best method for meeting those standards. To that end, I introduced legislation in 2008 called the "Investing in Educational Excellence Partnership" (IE^2) legislation. The IE^2 partnership allows local school systems to enter into contractual agreements with the state that allow for flexibility from state mandates in return for increased accountability. Today, two of the state's largest and most successful systems are operating under IE^2 contracts, representing 12 percent of the state's students. A number of other districts are going through the negotiation phase.

Georgia's Race to the Top reform plan will build on the work we have done in rewarding high-performing teachers and keeping them in the classroom. In 2005, my office introduced "Master Teacher" legislation to recognize teachers that demonstrated

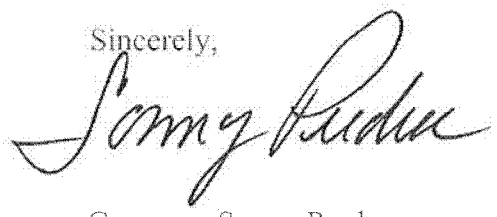
success in improving student learning. Our Race to the Top work will vastly expand this program, allowing us to identify the effectiveness of all teachers and leaders and reward those that are truly driving student achievement.

This legislative session, I will include several bills in my legislative package that support the reforms outlined in Georgia's Race to the Top application. The first bill is related to educator compensation and will bring a performance-based pay system for teachers and school leaders statewide once the details for such a system have been worked out through school districts partnering with the state to implement our Race to the Top plan. The second piece of legislation is closely tied to the first and will ensure that teachers and leaders don't abuse the performance pay system for personal gain by enacting appropriate penalties for those that facilitate cheating on state mandated tests. The final bill provides a code of ethics and training program for local school board members, as well as a mechanism for state intervention to replace those members in systems that are in danger of losing accreditation. Through these pieces of legislation, we will ensure that Georgia's Race to the Top reform plan is meaningful and sustainable statewide.

The unprecedented opportunity the Race to the Top competition provides is a "Nixon goes to China" moment for education. Never before in the education world has there been such an opportunity to challenge the status quo and implement real, outcomes-based reform. I don't intend to squander that opportunity, and I believe you will see that in our Race to the Top reform plan.

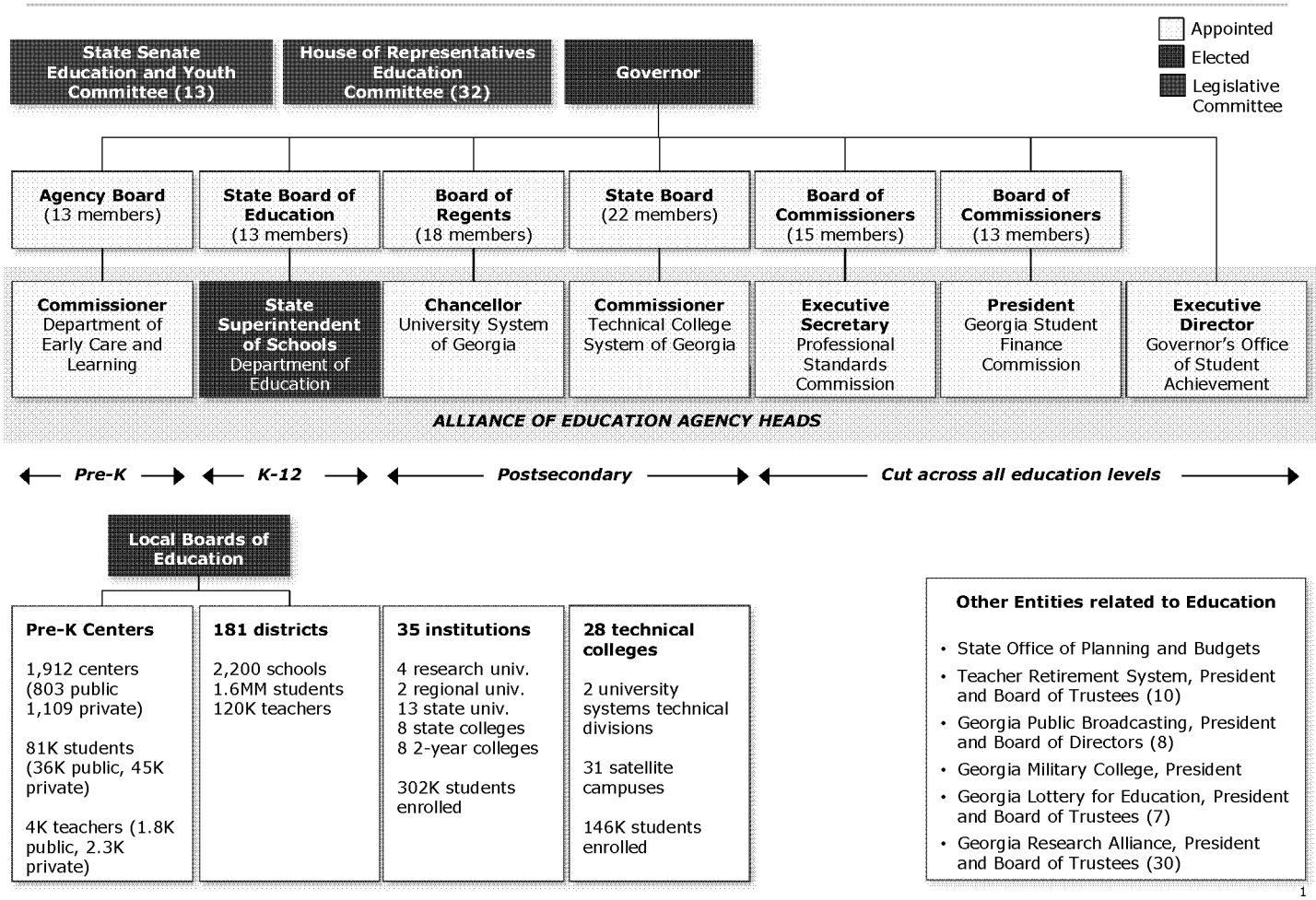
Thank you for your full consideration of Georgia's application.

Sincerely,



Governor Sonny Perdue

Appendix A2: Organization Structure of Education in Georgia



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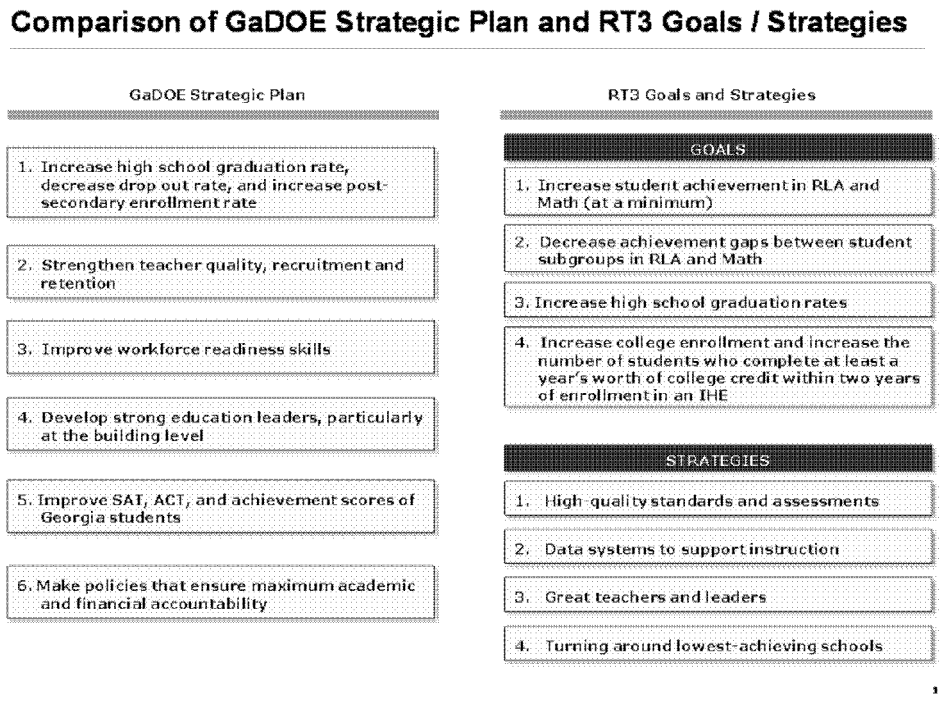
Appendix A3: GaDOE Strategic Plan

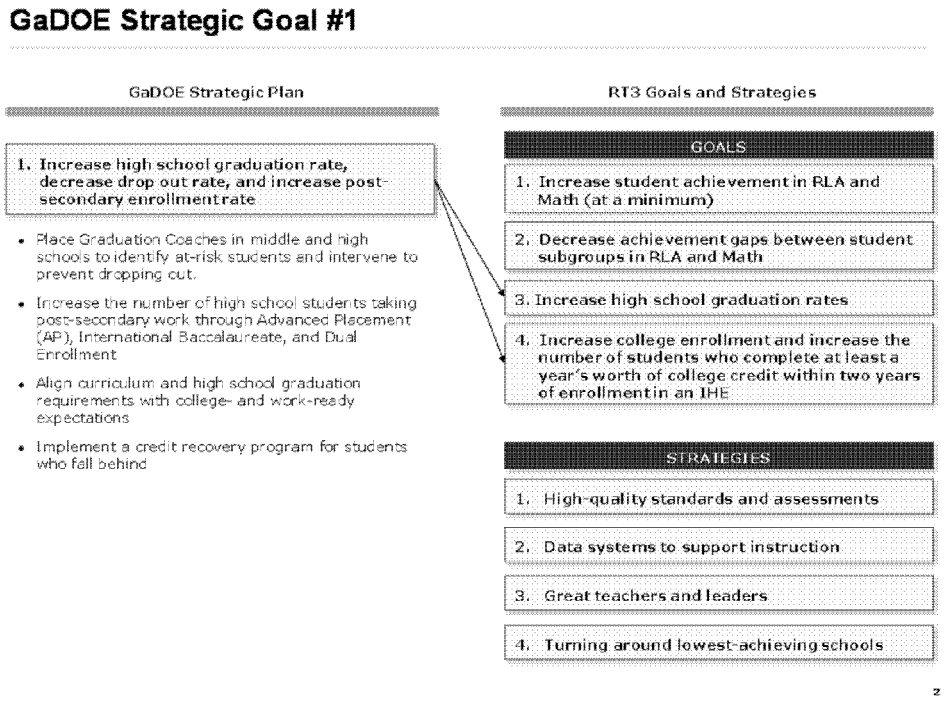
Goal	Strategies for Improvement	Indicators of Success
1. Increase high school graduation rate, decrease dropout rate, and increase post-secondary enrollment rate	• Place Graduation Coaches in middle and high schools to identify at-risk students and intervene to prevent dropping out. • Increase the number of high school students taking post-secondary work through Advanced Placement (AP), International Baccalaureate, and Dual Enrollment • Align curriculum and high school graduation requirements with college- and work-ready expectations • Implement a credit recovery program for students who fall behind	During 2005-2008: • The high school dropout rate has fallen from 5% to 3.6% • The number of students taking AP classes has jumped 56% to over 95,000 and Georgia has risen to 15th nationally in the percentage of high school graduates that passed at least one AP exam • The number of students in Dual Enrollment programs with state Technical Colleges increased 38% to 8,342
2. Strengthen teacher quality, recruitment and retention	• Improve classroom instruction through training and the sharing of best practices • Widespread use of the state's new, more-thorough teacher evaluation system, the CLASS Keys • Increase curriculum-based support and teaching tools to educators through GeorgiaStandards.org and other virtual resources • Use a variety of strategies to recruit and retain teachers in critical shortage areas, especially math, science and special educ.	• More early-career teachers are staying in their jobs: The retention rate for educators with 1-3 years experience is about 90 percent • Since 2005, the number of certified mathematics teachers has risen by 18% to 5,369 • More highly-qualified teachers are working in schools that did make Adequate Yearly Progress (AYP) in 2008
3. Improve workforce readiness skills	• Continued creation of career pathways for middle and high school students in industries that are crucial to Georgia's economic development • Increase the number of career academies and other innovative career-prep programs throughout the state • Train more teachers to effectively deliver the CTAE curriculum • Increase "on-the-job" training available to high school students through internships, apprenticeships and other work-based learning efforts	• In just one year, the number of students who received work-ready certificates has nearly quadrupled to over 3,200 • The state has worked with local districts to establish 10 operational charter career academies across the state and more will open in 2009-2010 • In 2008, more than 23,000 students participated in and completed appropriate work-based learning programs, such as internships and apprenticeships
4. Develop strong education leaders, particularly at the building level	• Continue to work with strategic partners to identify and train highly-effective school leaders across the state • Full implementation of the "Leader Keys," a standards-based evaluation tool for education leaders • Increase the number of Career, Technical and Agricultural Education program administrators that participate in leadership credentialing training sessions • Encourage use of Georgia Assessment of Performance on School Standards (GAPSS) and other data-driven, school improvement tools	• In 2008, the number of school administrators participating in training sessions for the Georgia Performance standards doubled from the previous year to more than 2,500 • In 2008, there were 264 school-level leaders from districts across the state that attended the GaDOE's Summer Leadership Academy to listen, learn and share strategies and ideas • Over the past three years, hundreds of Georgia educators have been trained through GaDOE partnerships with statewide leadership organizations

Appendix A3: GaDOE Strategic Plan

Goal	Strategies for Improvement	Indicators of Success
5. Improve SAT, ACT, and achievement scores of Georgia students	• Complete implementation of the our state's world-class curriculum, the GPS, and periodic content reviews in each area by Georgia educators • Continue to provide face-to-face and virtual training for teachers on effective delivery of the Georgia Performance Standards and other rigorous academic classes • Help students prepare for state and national assessments using electronic tools such as the Online Assessment System and the state's free SAT Prep Class • Provide targeted services that assist school districts in the identification and instruction of gifted students • Continue support and training for teachers of Students with Disabilities and English Language Learners • Timely release of student achievement scores in a way that is understandable and easily-accessible to the general public	• In 2007, Georgia's 4th graders scored at the national level in reading and in writing • ACT Score for public high school seniors from 19.7 in 2005 to 20.3 in 2008; From 2005 to 2008, the number of students taking the ACT jumped by nearly 50% to over 33,200 students • 2008 was the first year students took the state's new, more rigorous mathematics test (Math CRCT)
6. Make policies that ensure maximum academic and financial accountability	• Continue to develop state-of-the-art data management and reporting systems that inform the public and enable data-driven decision making • Provide school districts flexibility in exchange for higher student achievement through charter systems, policy waivers and school district contracts • Increase financial accountability through monitoring and management of internal and external programs • Provide more high-quality public school choice options and opportunities through a variety of programs, including charter schools and virtual learning	• For four years, Georgia has been one of the first states to release the federally-mandated Adequate Yearly Progress report • Georgia received the 2008 Improving Policy Award from the National Association of Charter School Authorizers • Since taking office, State Superintendent of Schools Kathy Cox has visited over 600 schools in every Georgia school district • The state of Georgia was ranked first in the nation for the use of educational technology in Education Week's 2009 *Technology Counts* report

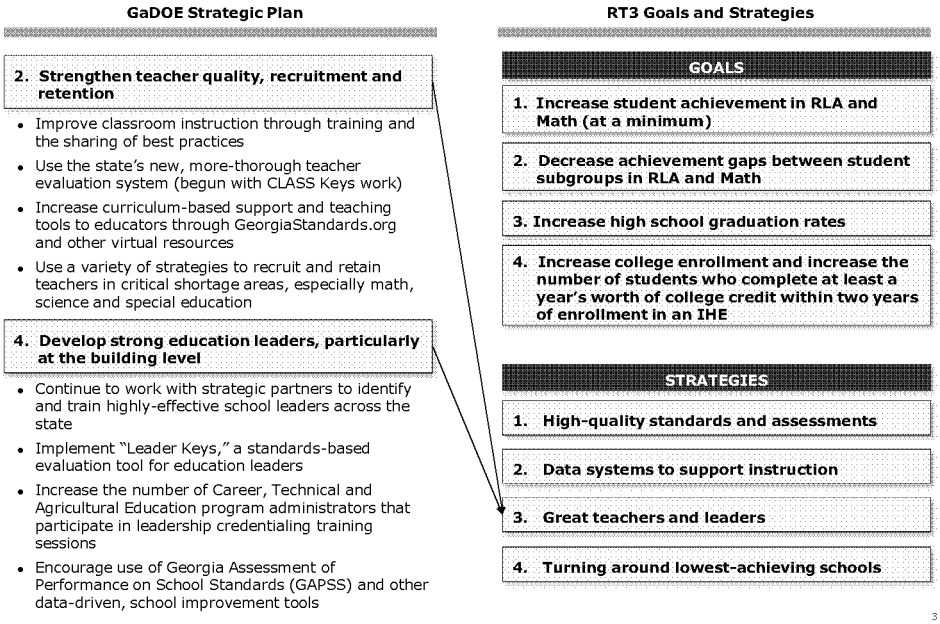
Appendix A4: Alignment Map among Goals of RT3 and GaDOE Strategic Plan



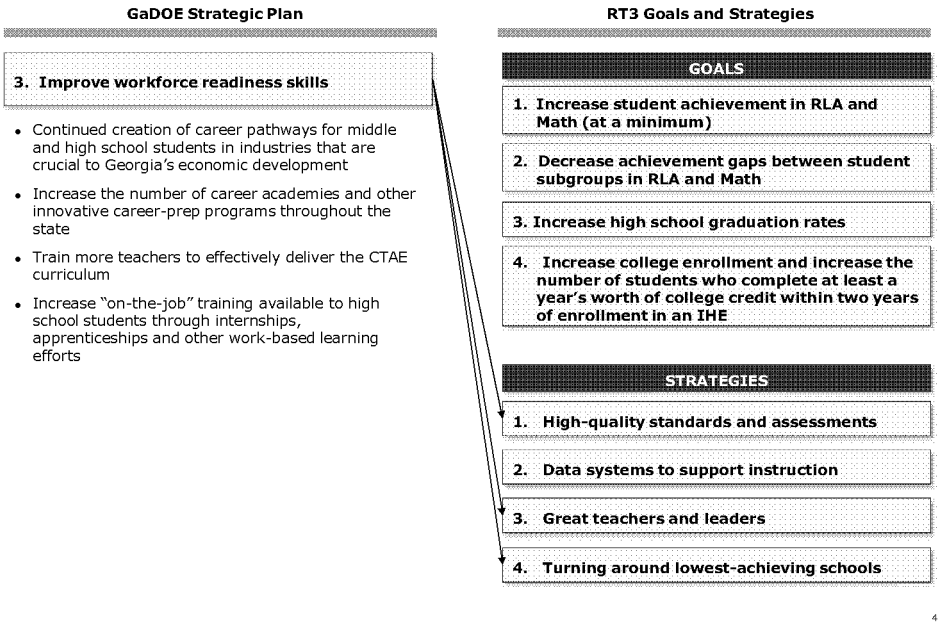


Appendix A4: Alignment Map among Goals of RT3 and GaDOE Strategic Plan

GaDOE Strategic Goals #2 and #4

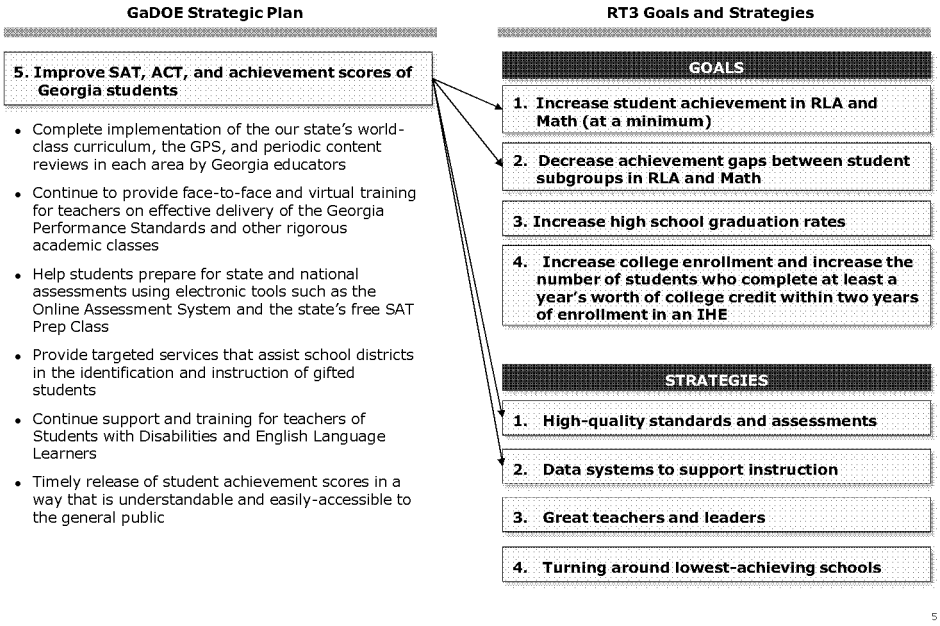


GaDOE Strategic Goal #3

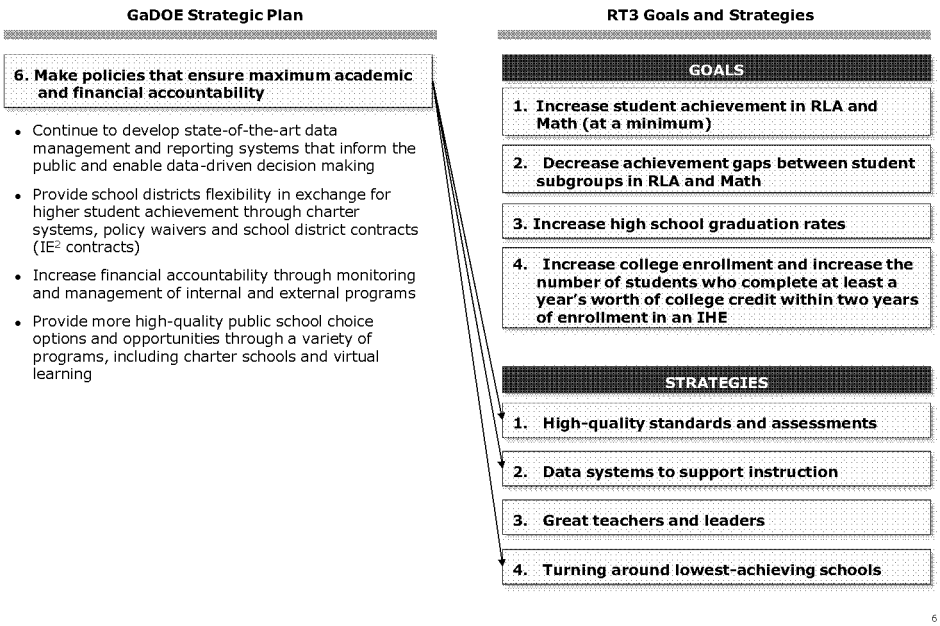


Appendix A4: Alignment Map among Goals of RT3 and GaDOE Strategic Plan

GaDOE Strategic Goal #5



GaDOE Strategic Goal #6



Appendix A5: University System of Georgia Higher Education/K-12 Partnerships

GEORGIA EARLY COLLEGES

Georgia Early Colleges focus on raising high school and college graduation rates for students traditionally underserved in Georgia. The schools, which are formed through partnerships between higher education institutions and county and/or school districts, offer a way of preparing teachers in a non-traditional classroom with students who are minority, first-generation college bound, or from low-income families. There are currently twelve Early Colleges in Georgia through the following 11 partnerships.

Institution	**Partnering District/County**
Albany State University	Dougherty County Schools
Georgia State University	Atlanta Public Schools
Georgia Perimeter College	DeKalb County School System
Columbus State University	Muscogee county School District
Atlanta Metropolitan College	Atlanta Public Schools
Georgia College and State University	Putnam County Schools
	Baldwin County Schools
University of West Georgia	Carroll County School System
Savannah State University	Savannah-Chatham Public School System
Valdosta State University	Valdosta City Schools
Georgia Southwestern State University	Sumter County Schools
College of Coastal Georgia	Gwynn County Schools

Appendix A5: University System of Georgia Higher Education/K-12 Partnerships

THE PROFESSIONAL DEVELOPMENT SCHOOL

The Professional Development School (PDS) initiative is intended to create a coherent, completely collaborative and comprehensive entity through which both initial and advanced study for educational professionals is provided. The educator preparation programs encompassed by this initiative include initial teacher certification programs for early childhood, middle grades, special education, secondary English, history, mathematics, sciences, and social studies, and P-12 foreign language; advanced professional study for teachers at the master's degree and specialist degree levels. Listed below are examples of the USG institutions' PDS partnerships.

Institution	**Districts/Counties**
Augusta State University	50 Schools in the following counties: Burke County Columbia County Jefferson County McDuffie County Warren County Richmond County
Armstrong Atlantic State University	Savannah-Chatham Public Schools Dalton Public Schools Whitfield County Schools Murray County Schools Walker County Schools Calhoun City Schools Catoosa County Schools Dade County Schools Gordon County Schools
University of Georgia	Barrow County Schools Clarke County School District Jackson County School System Madison County School System Oconee County School System Oglethorpe County School System

Appendix A5: University System of Georgia Higher Education/K-12 Partnerships

STEM INITIATIVE

STEM initiative embraces the two key points of intersection between the K-12 schools and the University System: Students, as they move through the K-12 schools and then into and through the University System and college students as they prepare to become teachers in the University System and then move into the public schools to teach the next generation of K-12 students.

Institution	**Districts/Counties/Schools**
Armstrong Atlantic State University	Glynn County
	Chatham County
	Camden County High School
	Glynn County
Columbus State University	Muscogee County
	Harris County
Darton College	Baldwin County High School
Georgia College and State University (schools)	Jones County High School
	Central High School
	Rutland High School
	Northeast High School
	Putnam County High School
	Macon County High School
	GCSU Early College
	Midway Elementary School
	Hancock County Middle School
	Gray Elementary School
	Dames Ferry Elementary School
	Eagle Ridge Elementary School
	TG Scott Elementary School
Georgia Perimeter College (districts)	DeKalb County Schools
	City Schools of Decatur
	Clayton County Schools
	Newton County Schools
	Metro RESA

Appendix A5: University System of Georgia Higher Education/K-12 Partnerships

Institution	Districts/Counties/Schools
Georgia Perimeter College (private schools)	The Walker School, Marietta Holy Innocents Episcopal School, Atlanta Greenbrier High School, Columbia County Schools (near Augusta) George Walton Academy Tallulah Falls School LaPetite Academy, Ellenwood Atlanta New Century School
Georgia State University	Fulton County Clayton County Decatur County Dekalb County Atlanta Public Schools Rockdale County Douglas County Cobb County Gwinnett County Marietta County Henry County
University of Georgia	Athens Academy* Athens Christian* Barrow County Clarke County Commerce City Gateway Academy* Greater Christian* Gwinnett County Jackson County Jefferson City Madison County Monsignor Donovan* Morgan County Oconee County Oglethorpe County Rabun County Walton County *Private schools

Appendix A5: University System of Georgia Higher Education/K-12 Partnerships

As a part of FOCUS, Fostering Our Communities Understanding of Science, a project where undergraduate science and mathematics majors get exposed to teaching in the public schools through working with elementary, the following partnerships were formed:

Institution	Districts/Counties/Schools
Georgia Perimeter College	Gwinnett County Schools
	Atlanta Public Schools
	DeKalb County Schools
	City Schools of Decatur
	Walton County Schools
	Fulton County Schools
	Cobb County Schools

Appendix A6: Letter from US ED Peer Review of Georgia's Assessments

RECEIVED
NOV 17 2009
NOV 10 2009

UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF ELEMENTARY AND SECONDARY EDUCATION

ASSISTANT SECRETARY

The Honorable Kathy Cox
State Superintendent of Schools
Georgia Department of Education
2062 Twin Towers East
Atlanta, Georgia 30334

Dear Superintendent Cox:

Thank you for submitting additional assessment materials for peer review under the standards and assessment requirements of the *Elementary and Secondary Education Act of 1965* (ESEA), as amended. We appreciate the efforts that were required to prepare for the latest peer review that occurred in October 2008.

In an October 5, 2007 letter to you, then-Assistant Secretary Kerri L. Briggs approved your standards and assessment system. However, since that time, you implemented science standards and assessments, a new assessment in mathematics in grades 3-5 and 8, and new high school English/language arts assessments, evidence of which you were obligated to submit for peer review. In May 2008, you submitted evidence of Georgia's science standards and assessments for peer review, and in a September 18, 2008 letter to you, then-Assistant Secretary Briggs enumerated the evidence required for Georgia's science standards and assessments to be fully approved. Subsequently, in October 2008, you submitted additional evidence of Georgia's science standards and assessments, as well as evidence of the new mathematics and English/language arts assessments, for peer review. Outside peer reviewers and Department staff have evaluated Georgia's additional submissions.

I have concluded that the evidence provided demonstrates that Georgia's science standards and assessments, mathematics assessments in grades 3-5 and 8, and high school English/language arts assessments satisfy the statutory and regulatory requirements under section 1111(b)(1) and (3) of the ESEA. As a result, Georgia's standards and assessment system now includes academic content standards in reading/language arts, mathematics, and science; student academic achievement standards in reading/language arts, mathematics, and science; alternate academic achievement standards for students with the most significant cognitive disabilities in reading/language arts, mathematics, and science; general assessments in reading/language arts and mathematics in grades 3-8 and one grade in high school and general science assessments for each of three grade spans (grades 3-5, 6-9, and 10-12); and alternate assessments based on alternate academic achievement standards in the corresponding grades in reading/language arts, mathematics, and science. Accordingly, Georgia's standards and assessment system warrants *Full Approval with Recommendations*. This status means that, although Georgia's standards and assessment system meets all statutory and regulatory

requirements, it could be strengthened in certain respects. In particular, we recommend that Georgia improve the academic achievement descriptors for the Georgia High School Graduation Test (GHSGT) in English/language arts. I have enclosed detailed comments from the peer review team that evaluated Georgia's submission for your information.

Please be aware that approval of Georgia's standards and assessment system under the ESEA is not a determination that the system complies with Federal civil rights requirements, including Title VI of the *Civil Rights Act of 1964*, Title IX of the *Education Amendments of 1972*, Section 504 of the *Rehabilitation Act of 1973*, Title II of the *Americans with Disabilities Act*, and requirements under the *Individuals with Disabilities Education Act*. Finally, please remember that, as Georgia continues to make significant changes to its standards and assessment system, Georgia must submit information about those changes to the Department for review and approval.

We have found it a pleasure working with your staff on this review. Please accept my congratulations for Georgia's approved standards and assessment system in reading/language arts, mathematics, and science. If you have any questions, please do not hesitate to contact Grace A. Ross at grace.ross@ed.gov.

Sincerely,

Thelma Meléndez de Santa Ana, Ph.D.

Enclosure

cc: Governor Sonny Perdue
Dr. Melissa Fincher

Appendix A7: Georgia's New Graduation Requirements

Comparison of Current and Revised Requirements

Current Rule	Revised Rule
4 tiers, each with different requirements: College Preparatory (CP) and College Preparatory with Distinction (CP+), Technology/Career (TC) and Technology/Career with Distinction (TC+)	1 common set of requirements for all students
22 total units required for CP and TC 24 total units required for CP+ and TC+	23 total units required for all students
4 units of English Language Arts required for all students	4 units of English Language Arts required for all students
4 units of Mathematics required for CP and CP+; 3 units required for TC and TC+	4 units of Mathematics required for all students
3 units of Science required for all students	4 units of Science required for all students (the 4th science unit may be used to meet both the science and elective requirements)
3 units of Social Studies required for all students	3 units of Social Studies required for all students, all courses are specifically identified
1 unit of Health and Physical Education required for all students	1 unit of Health and Physical Education required for all students; 3 units of JROTC may be used to meet the requirement
1 unit of Computer Technology and/or Fine Arts and/or Technology Career Preparatory and/or Foreign Language required for all students	A total of 3 units required from: CTAE and/or Foreign Language and/or Fine Arts for all students *(students planning to enter or transfer into a University System of Georgia institution or other post- secondary institution must take two units of the same foreign language).*
2 units of Foreign Language required for CP and CP+ students	
5 – 6 additional elective units depending on tier (CP, CP+, TC, TC+)	4 additional elective units for all students

Adopted by SBOE, rule 160-4-2-.48 HIGH SCHOOL GRADUATION REQUIREMENTS FOR STUDENTS ENROLLING IN THE NINTH GRADE FOR THE FIRST TIME IN THE 2008-09 SCHOOL YEAR AND SUBSEQUENT YEARS

Authority O. C. G. A. § 20-2-131; 20-2-140; 20-2-142; 20-2-150(a); 20-2-151(a), (b);

20-2-154(a); 20-2-160; 20-2-161.1; 20-2-161.2; 20-2-281(a), (c).

Adopted: September 13, 2007

Effective: July 1, 2008

Appendix A8: AP Participation and Scores—Georgia vs. Nation

[Based on The 5th Annual AP Report to the Nation, Georgia Supplement, February 2009]

Table 1: High School and AP Populations by Race/Ethnicity

Race/Ethnicity	AP Examinee Population	Overall Student Population
Black or African American	22.4%	34.1%
Asian, Asian American or Pacific Islander	7.7%	3.4%
Hispanic or Latino	5.5%	4.9%
American Indian or Alaska Native	0.4%	0.1%
White	58.7%	54.1%

Table 2: AP Participation by Subject Area—Percent of GA Students Who Took an AP Exam During High School, by Subject Area

Subject Area	Georgia	Nation
Art	1.8%	1.6%
English	14.3%	12.2%
Language	2.6%	3.7%
Math	11.3%	9.3%
Science	9.5%	8.3%
Social Science	20.2%	15.4%
All	30.3%	25.0%

Table 3: AP Equity and Excellence—Percent of GA Students Who Earned 3 or Higher on One or More AP Exams During High School, by Subject Area

Subject Area	Georgia	Nation
Art	1.1%	1.0%
English	7.9%	7.1%
Language	1.5%	2.4%
Math	6.2%	5.6%
Science	4.2%	4.4%
Social Science	10.3%	8.4%
All	16.3%	15.2%

Appendix A8: AP Participation and Scores—Georgia vs. Nation

[Based on The 5th Annual AP Report to the Nation, Georgia Supplement, February 2009]

Table 4: AP Participation and Performance—High School Classes of 2003, 2007 and 2008

Race/Ethnicity	2003	2007	2008	% Increase (2008 vs. 2003)
Black or African American	2,638	4,558	5,482	**108%**
Asian, Asian American or Pacific Islander	1,084	1,786	1,894	75%
Hispanic or Latino	415	995	1,339	**223%**
American Indian or Alaska Native	46	76	86	87%
White	9,458	13,085	14,380	52%
All Students	14,274	21,738	24,494	72%
Low-Income Students	914	2,665	3,138	**243%**

Table 5: AP Participation and Performance—Number of AP Examinees Scoring 3 or higher on at least one AP Exam. High School Classes of 2003, 2007 and 2008

Race/Ethnicity	2003	2007	2008	% Increase (2008 vs. 2003)
Black or African American	743	1,088	1,383	86%
Asian, Asian American or Pacific Islander	702	1,210	1,278	82%
Hispanic or Latino	270	599	799	**196%**
American Indian or Alaska Native	22	36	43	95%
White	6,058	8,025	8,987	48%
All Students	8,141	11,599	13,153	62%
Low-Income Students	319	880	1,025	**221%**

Table 6: AP Participation and Performance by Race/Ethnicity—High School Class of 2008

Race/Ethnicity	Percent of AP examinee population	Percent of examinees with at least one AP exam score of 3 or higher	Percent of all students in public high school class
Black or African American	22.4%	10.5%	34.1%
Asian, Asian American or Pacific Islander	7.7%	9.7%	3.4%
Hispanic or Latino	5.5%	6.1%	4.9%
American Indian or Alaska Native	0.4%	0.3%	0.1%
White	58.7%	68.3%	54.1%
Low-Income Students	12.8%	7.8%	

Appendix A8: AP Participation and Scores—Georgia vs. Nation

[Based on The 5th Annual AP Report to the Nation, Georgia Supplement, February 2009]

Table 7: Number of High School Graduates and Percent by Race/Ethnicity, GA vs. Nation

Race/Ethnicity	Georgia		Nation	
	#	% Total	#	% Total
Black or African American	27,596	34.1%	436,772	14.4%
Asian, Asian American or Pacific Islander	2,751	3.4%	160,756	5.3%
Hispanic or Latino	3,965	4.9%	467,104	15.4%
American Indian or Alaska Native	81	0.1%	33,365	1.1%
White	43,781	54.1%	1,904,812	62.8%
All Students	80,926	96.6%	3,033,140	99.0%

Table 8: Number of High School Graduates who took an AP Exam at some point in high school and Percent by Race/Ethnicity, GA vs. Nation

Race/Ethnicity	Georgia		Nation	
	#	% Total	#	% Total
Black or African American	5,482	22.4%	59,119	7.8%
Asian, Asian American or Pacific Islander	1,894	7.7%	77,309	10.2%
Hispanic or Latino	1,339	5.5%	112,174	14.8%
American Indian or Alaska Native	86	0.4%	4,548	0.6%
White	14,380	58.7%	462,339	61.0%
All Students	24,494	94.7%	757,932	94.4%

Table 9: Georgia AP Exam Takers as Percent of Nation's AP Exam Takers, by Race/ Ethnicity (2008)

Race/Ethnicity	% of Nation's AP Exam Takers
Black or African American	9.3%
Asian, Asian American or Pacific Islander	2.4%
Hispanic or Latino	1.2%
American Indian or Alaska Native	1.9%
White	3.1%
All Students	3.2%

Table 10: Percent of High School Graduates Who Took at Least One AP Exam, GA vs. Nation (2008)

	2003	2007	2008
Nation	19.0%	23.6%	25.0%
Georgia	21.3%	28.4%	30.3%

Appendix A9: Class Keys Framework

GEORGIA DEPARTMENT OF EDUCATION

CLASS Keys: CLassroom Analysis of State Standards

How does the teacher plan?

The teacher
- Demonstrates a depth of understanding of content knowledge and pedagogy.
- Uses appropriate tools and strategies for planning.
- Takes responsibility for personal professional growth.
- Shares in the responsibility for the continuous improvement of the school.

Curriculum and Planning Teacher Standard 1
The teacher makes decisions about planning that demonstrate a deep understanding of content knowledge, pedagogy, and Georgia Performance Standards (GPS) implementation.

CP 1.1The teacher plans instruction that reflects strong knowledge of both content and effective instructional delivery.
CP 1.2 The teacher demonstrates a clear understanding of GPS by appropriately planning for what students are expected to know, understand, and do in the grade level and content area.
CP 1.3 The teacher plans instruction that is interdisciplinary and makes connections to the real world.

Curriculum and Planning Teacher Standard 2
The teacher uses appropriate tools and strategies for planning that will help all learners master the GPS and meet district expectations for learning.

CP 2.1 The teacher utilizes the GPS as reflected by the written school curriculum, including the learning framework, scope and sequence, maps, units, and guides, to plan instruction and assessments.
CP 2.2 The teacher uses an organizing framework for instructional planning to support standards-based instruction.
CP 2.3 The teacher plans assessments to measure student progress toward and mastery of the GPS.

Professionalism Teacher Standard 3
The teacher takes responsibility for professional growth in order to support high levels of learning for all students.

P 3.1 The teacher grows professionally through job-embedded learning.
P 3.2 The teacher enhances content knowledge and pedagogical skills through a variety of research-based and current professional development opportunities.

Professionalism Teacher Standard 4
The teacher shares in the responsibility for the continuous improvement of the school.

P 4.1 The teacher actively supports the School Improvement Plan (SIP).

How does the teacher teach?

The teacher
- Uses research-based practices.
- Challenges all learners to achieve high levels of learning.
- Creates a safe, productive, collaborative, and inviting learning environment.
- Reinforces the continuous improvement of all students.

Standards-Based Instruction Teacher Standard 1
The teacher consistently uses research-based practices in the classroom.

SBI 1.1 The teacher consistently demonstrates research-based practices that engage students in learning.
SBI 1.2 The teacher emphasizes and encourages all learners to use higher-order thinking skills, processes, and habits of the mind.
SBI 1.3 The teacher makes appropriate use of differentiation.
SBI 1.4 The teacher uses flexible grouping practices based on ongoing diagnostic and formative assessment.
SBI 1.5 The teacher uses accessible technology effectively to enhance student learning.

Standards-Based Instruction Teacher Standard 2
The teacher challenges all learners to achieve high levels of learning as defined by GPS.

SBI 2.1 The teacher consistently demonstrates high expectations for all learners, asking students to play an active role in setting their own personal learning goals.
SBI 2.2 The teacher effectively communicates learning expectations using both language of the standards and strategies that reflect a standards-based classroom.
SBI 2.3 The teacher provides effective commentary/feedback on student performances, including the use of fair and equitable grading procedures based on mastery of GPS.

Professionalism Teacher Standard 1
The teacher creates a safe, productive, collaborative, and inviting learning environment that fosters a sense of community and personal responsibility to ensure that students maximize learning.

P 1.1 The teacher establishes classroom rules, practices, and procedures that support a positive, productive learning environment.
P 1.2 The teacher maximizes instructional time.
P1.3 The teacher fosters a sense of community and belonging by acknowledging diversity, achievements, and accomplishments of all students in the classroom.
P 1.4 The teacher helps students take responsibility for their own behavior and learning.

Are the teacher's students learning?

The teacher
- Uses a variety of effective and balanced assessment techniques.
- Analyzes assessment and evaluation data to plan for the continuous improvement of students.
- Positively impacts student learning and academic achievement.

Assessment of Student Learning Teacher Standard 1
The teacher uses a variety of effective and balanced assessment techniques that are systematically implemented.

AL 1.1 The teacher uses diagnostic assessment strategies to identify individual and class strengths, misconceptions, and areas of weaknesses in order to inform planning.
AL 1.2 The teacher uses formative assessment strategies to monitor student progress and to adjust instruction in order to maximize student achievement on the GPS.
AL 1.3 The teacher uses a variety of summative assessment strategies to evaluate student status relative to mastery of GPS.

Assessment of Student Learning Teacher Standard 2
The teacher analyzes assessment and evaluation data to plan for continuous improvement for each student and for subgroups of students.

AL 2.1 The teacher uses assessment data in a timely and systematic manner to design and implement appropriate interventions that enable continuous improvement for all students.

Student Achievement Standard 1
The teacher has a positive impact on student learning and academic achievement.

SA 1.1 Students taught by the teacher demonstrate GPS-related academic achievement progress on measures of student learning including state-mandated achievement tests or other measures as determined by the school system.
SA 1.2 Students taught by the teacher of content areas not addressed by the GPS demonstrate academic achievement progress on measures of student learning as determined by the school system.

Professionalism Teacher Standard 2
The teacher promotes the active and sustained involvement of students, families, and the community in order to reinforce the continuous improvement of all students.

P 2.1 The teacher strives to establish respectful and productive relationships and cooperative partnerships with families and the community in order to support student learning and well-being.

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Appendix A10: Sources of New Teachers in Georgia

Number of Newly Hired Teachers by Source

	2004	2005	2006	2007	2008	2009
Returning Teachers	2,895	2,860	3,060	3,389	2310	2,280
Non-Traditional, Alternate, and Other Routes	2,009	2,525	2,853	3,374	3047	2,454
Traditional Programs	1,960	3,111	3,377	3,843	3102	3,135
Other States	3,441	3,201	3,659	4,273	3952	2,229
Other Sources	624	0	0	100	1827	1081
TOTAL	**10,929**	**11,697**	**12,949**	**14,979**	**14,238**	**11,179**

Percent of Total Newly Hired Teachers by Source

	2004	2005	2006	2007	2008	2009
Returning Teachers	26.5%	24.5%	23.6%	22.6%	16.2%	20.4%
Non-Traditional, Alternate, and Other Routes	18.4%	21.6%	22.0%	22.5%	21.4%	22.0%
Traditional Programs	17.9%	26.6%	26.1%	25.7%	21.8%	28.0%
Other States	31.5%	27.4%	28.3%	28.5%	27.8%	19.9%
Other Sources	5.7%	0.0%	0.0%	0.7%	12.8%	9.7%
TOTAL	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Notes:

Newly hired teachers	Teachers in a given year who were not in the public K-12 education workforce the prior year. This includes veteran teachers as well as newly-prepared teachers fresh out of a preparation program.
Returning teachers	Teachers who were not in the Georgia public K-12 education workforce the previous year but had been at some point during previous years. Examples include someone who had left the workplace due to family, child, medical reasons; taking a teaching job in a private school; held a Georgia certificate, had been working in Georgia K-12, moved out of state, moved back to Georgia and re-entered the K-12 workforce; etc.
Non-traditional, alternate, and other routes	Newly-hired teachers entering the profession through a Georgia alternative preparation program (e.g., Georgia TAPP, One-Year Supervised Practicum) or through one of several other routes to certification in Georgia (e.g., test-based non-renewable certificate, waivers, foreign exchange, permits).
Traditional programs	Newly-prepared teachers coming out of a Georgia teacher preparation program operated by an institution of higher education. Includes both public and private institutions. Based on teachers reported in the Title II completer reports.
Other states	Teachers (including veteran as well as new) who: held a teaching certificate / license in another state who were awarded a Georgia teaching certificate through reciprocity; or had completed an out of state program and were newly recommended for certification by their institution.
Other sources	Newly-hired teachers who do not fall into one of the other categories (e.g., in-state movement from a private school into a public school).
Data Sources	PSC Certification Data System, PSC Educator Prep / Title II Data System, DOE CPI Data

Appendix A11: Georgia's Differentiated Accountability Approach

Georgia Department of Education
Side by Side for SSAS and Differentiated SSAS

The following side by side was created to compare and contrast Georgia's proposed differentiated accountability plan with the current requirements set forth in NCLB and Georgia's Single Statewide Accountability System as they relate to consequences for schools in Needs Improvement. Georgia's proposed plan consolidates the current 10 Needs Improvement statuses in SSAS into three new statuses: Improvement (NI-1 and NI-2), Corrective Action (NI-3 and NI-4), and State Directed (NI-5 or higher).

The new Corrective Action status also includes three tiers. These three tiers are based on the distance between the actual performance of subgroups that did meet AMOs in math and reading and the AMO bars for those subjects in a given year. These tiers are connected to a list of consequences that escalate from Tier 1 through Tier 3.

Please note that the current processes for making Georgia's AYP determinations will not change if the proposed plan is approved by US ED for the 2008-2009 school year.

Current Requirements under NCLB & SSAS	Georgia's Differentiated Accountability Proposal
Needs Improvement Year 1 1. Notify parents of each student enrolled in the school of the school's improvement status and consequences. 2. Updated and implement the school improvement plan. 3. Must offer Public School Choice.	**IMPROVEMENT STATUS (NI-1 and NI-2)** 1. Notify parents of each student enrolled in the school of the school's NI classification. 2. Revise and implement the school improvement plan. 3. Provide Supplemental Education Services (SES) for all students who are not meeting standards in reading, English/ language arts, and/or mathematics. 4. Offer Public School Choice to all students at schools in NI-2 or higher.
Needs Improvement Year 2 1. Notify parents of each student enrolled in the school of the school's NI classification. 2. Revise and implement the school improvement plan. 3. Must offer Public School Choice. 4. Provide Supplemental Education Services (SES) for all students who are not meeting standards in reading, English/ language arts, and/or mathematics.	**DIFFERENCE** **THE NCLB CONSEQUENCES FOR SCHOOL IMPROVEMENT HAVE BEEN FLIPPED:** • **SUPPLEMENTAL EDUCATION SERVICES (SES) WILL BE REQUIRED FOR ALL SCHOOLS IN NI-1 OR HIGHER;** • **PUBLIC SCHOOL CHOICE WILL BE REQUIRED AT ALL SCHOOLS IN NI-2 OR HIGHER;**

Appendix A11: Georgia's Differentiated Accountability Approach

Current Requirements under NCLB & SSAS	Georgia's Differentiated Accountability Proposal
CORRECTIVE ACTION **Needs Improvement Year 3 & Needs Improvement Year 4** 1. Notify parents of each student enrolled in the school of the school's corrective action status and consequences. 2. Provide public school choice option for all students. 3. Provide Supplemental Education Services (SES) for all students who are not meeting standards in reading, English language arts, and/or mathematics. 4) Required to select one corrective action from the following **NCLB List**. • Identify the school for corrective action and take at least one of the following corrective actions: o Institute a new curriculum, or o Replace the school staff who are relevant to the failure to make adequate yearly progress. o Significantly decrease management authority at the school level. o Appoint an outside expert to advise the school on its progress toward making AYP, based on its improvement plan. o Extend the school year or school day for the school. o Restructure the internal organizational structure of the school.	TIER 1 CORRECTIVE ACTION STATUS **(NI-3 and NI-4)** • **School placement in the three possible tiers is based on "distance from the annual AMOs" (DFAMO) by subject and subgroup(s) that failed.** 1. Notify parents of each student enrolled in the school of the school's classification. 2. Provide Supplemental Education Services (SES) for all students who are not meeting standards in reading, English/ language arts, and/or mathematics. 3. Offer Public School Choice to all students at the school. 4. Update and implement the school improvement plan with the GaDOE. **DIFFERENCE** • LEAMUST SELECT ONE CORRECTIVE ACTION FROM THE FOLLOWING CORRECTIVE ACTIONS FOR TIER 1 SCHOOL: o Extend the school year or school day for the school, or o Restructure the internal organizational structure of the school or o Appoint an outside expert to advise the school on its progress toward making AYP, based on its improvement plan, or o Convert the school to a charter school.

Appendix A11: Georgia's Differentiated Accountability Approach

Current Requirements under NCLB & SSAS	Georgia's Differentiated Accountability Proposal
CORRECTIVE ACTION **Needs Improvement Year 3 & Needs Improvement Year 4** 1. Notify parents of each student enrolled in the school of the school's corrective action status and consequences. 2. Provide public school choice option for all students. 3. Provide Supplemental Education Services (SES) for all students who are not meeting standards in reading, English language arts, and/or mathematics. 4) Select one corrective action from **NCLB List**: o Institute a new curriculum, or o Replace the school staff who are relevant to the failure to make AYP, or significantly decrease management authority at the school level, or o Appoint an outside expert to advise the school on its progress toward making AYP, based on its improvement plan, or o Extend the school year or school day for the school, or o Restructure the internal organizational structure of the school.	**TIER 2 CORRECTIVE ACTION STATUS (NI-3 and NI-4)** • School placement in the three possible tiers is based on distance from the annual AMOs (DFAMO) by subject and subgroup(s) that failed. 1. Notify parents of each student enrolled in the school of the school's classification. 2. Provide Supplemental Education Services (SES) for all students who are not meeting standards in reading, English/ language arts, and/or mathematics. 3. Offer Public School Choice to all students at the school. 4. Update and implement the school improvement plan. **ADDITIONAL CONSEQUENCES** • LEA MUST CHOOSE AND IMPLEMENT ONE OF THE FOLLOWING CORRECTIVE ACTIONS BASED ON STUDENT ACHIEVEMENT AND SCHOOL DATA: o Replace the school staff that are relevant to the failure to make adequate yearly progress, or o Significantly decrease management authority at the school level, or o Appoint an outside expert to advise the school on its progress toward making adequate yearly progress, based on its improvement plan, or o Extend the school year or school day for the school, or o Restructure the internal organizational structure of the school, or o Convert the school to a charter school. **REMOVED** o Institute a new curriculum is no longer an option because all schools must be fully implementing the Georgia Performance Standards (GPS).

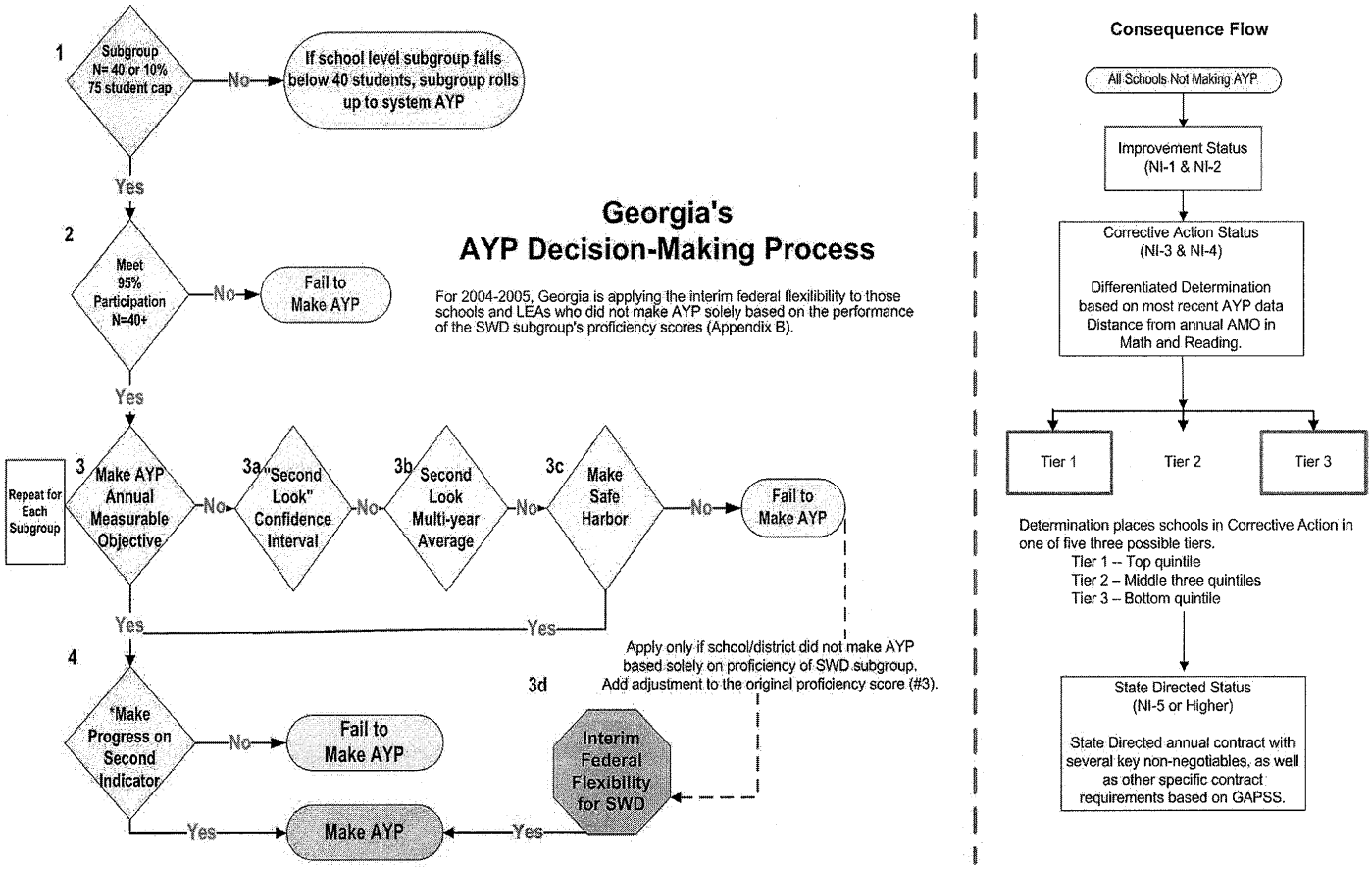
Appendix A11: Georgia's Differentiated Accountability Approach

Current Requirements under NCLB & SSAS	Georgia's Differentiated Accountability Proposal
CORRECTIVE ACTION **Needs Improvement Year 3 & Needs Improvement Year 4** 1. Notify parents of each student enrolled in the school of the school's corrective action status and consequences. 2. Provide public school choice option for all students. 3. Provide Supplemental Education Services (SES) for all students who are not meeting standards in reading, English language arts, and/or mathematics. 4) Select one corrective action from **NCLB List**: o Institute a new curriculum, or o Replace the school staff who are relevant to the failure to make adequate yearly progress. o Significantly decrease management authority at the school level. o Appoint an outside expert to advise the school on its progress toward making AYP, based on its improvement plan. o Extend the school year or school day for the school. o Restructure the internal organizational structure of the school.	**TIER 3 CORRECTIVE ACTION STATUS (NI-3 and NI-4)** • **School placement in the three possible tiers is based on distance from the annual AMOs by subject and subgroup(s) that failed – DFAMO.** 1. Notify parents of each student enrolled in the school of the school's classification. 2. Provide Supplemental Education Services (SES) for all students who are not meeting standards in reading, English/ language arts, and/or mathematics. 3. Offer Public School Choice to all students at the school. 4. Update and implement the school improvement plan to include the all corrective actions(s) as selected by the GaDOE based on school needs. **ADDITIONAL CONSEQUENCES** • PROVIDE NCLB PUBLIC SCHOOL CHOICE TO ALL STUDENTS. • GaDOE CHOOSES ONE OR MORE CORRECTIVE ACTIONS THAT THE LEA MUST IMPLEMENT BASED ON STUDENT ACHIEVEMENT AND SCHOOL DATA: o GaDOE involved directly in decisions regarding the replacement of the school staff that are relevant to the failure to make AYP, or o Significantly decrease management authority at the school level, or o Appoint an outside expert to advise the school on its progress toward making AYP, based on its improvement plan, or o Extend the school year or school day for the school, or o Restructure the internal organizational structure of the school, or o Convert the school to a charter school. **REMOVED** o Institute a new curriculum is no longer an option because all schools must be fully implementing the Georgia Performance Standards (GPS).

Appendix A11: Georgia's Differentiated Accountability Approach

Current Requirements under NCLB & SSAS	Georgia's Differentiated Accountability Proposal
RESTRUCTURING **Needs Improvement Year 5** 1. Notify parents of each student enrolled in the school of the school's restructuring status and consequences. 2. Provide public school choice option for all students. 3. Provide Supplemental Education Services (SES) for all students who are not meeting standards in reading, English language arts, and/or mathematics. 4.The LEA shall implement one of the following **NCLB alternative governance arrangements** for the school consistent with state law: • Reopening the school as a public charter school, or • Replacing all or most of the school staff (which may include the principal) who are relevant to the failure to make AYP, or • Entering into a contract with an entity, such as a private management company, with a demonstrated record of effectiveness, to operate the public school, or • Turning the operation of the school over to the state educational agency, if permitted under state law and agreed to by the state, or • Any other major restructuring of the school's governance arrangement that makes fundamental reforms, such as significant changes in the school's staffing and governance, to improve student academic achievement in the school and that has substantial promise of enabling the school to make AYP. In the case of a rural local educational agency with a total of less than 600 students in average daily attendance at the schools that are served by the agency and all of whose schools have a School Locale Code of 7 or 8, as determined by the Secretary, the Secretary shall, at such agency's request, provide H. R. 1—62 technical assistance to such agency for the purpose of implementing this clause. • PROMPT NOTICE.—The local educational agency shall provide prompt notice to teachers and parents and provide the teachers and parents with an adequate opportunity to comment before taking any action under those subparagraphs;	**STATE- DIRECTED STATUS (NI-5 and HIGHER)** 1. Notify parents of each student enrolled in the school of the school's classification. 2. Provide Supplemental Education Services (SES) for all students who are not meeting standards in reading, English/ language arts, and/or mathematics. 3. Offer Public School Choice to all students at the school. **ADDITIONAL CONSEQUENCES** **LEA MUST ENTER INTO AN ANNUAL STATE DIRECTED IMPROVEMENT CONTRACT WITH TERMS AND CONDITIONS DIRECTED BY THE GaDOE.** **Non-Negotiable Contract Elements** Each contract will contain the following non-negotiable elements. • Assignment of GaDOE state director to school. The state director will be at the school full time and will provide direct supervision in the implementation of all school improvement actions: • Directly involved in decisions regarding replacement of staff (e.g., principal); • Ensures that instructional frameworks are used appropriately in each classroom; • Ensures benchmark assessments are given and results are analyzed to guide instruction; • Oversees implementation of short-term action plans; • Ensures that the leadership team analyzes teacher attendance and develops action plan if needed; • Ensures that the leadership team analyzes student attendance and develops action plan if needed; • Ensures that the leadership team analyzes discipline records and develops action plan if needed; and • Ensures that the leadership team addresses targeted areas from GAPSS Review through the short term action plans. **Other mandates for the state directed schools include:** • Participation in GAPSS review at level 5 and 7; • Provide training, implementation and monitoring of instructional strategies through Raising Standards Academies; • Hiring instructional coaches for specific content area of need, based on AYP results. **Customized Contract Expectations** In addition to the set of non-negotiable actions, a set of customized expectations will be developed annually by the state with each school and system to address the unique issues that school faces in the coming school year. These expectations will be based on the most recent school data analysis available.

Appendix A11: Georgia's Differentiated Accountability Approach



*The Second Indicator is applicable to the All Students subgroup and all subgroups when using Safe Harbor to meet AMO.

Appendix A12: GAPSS Results

Georgia Assessment of Performance on School (GAPSS) Analysis

The Georgia Assessment of Performance on School Standards (GAPSS) Analysis is an assessment process provided by the Georgia Department of Education to systematically determine strengths and weaknesses of a school regarding implementation of the Georgia School Keys (standards for schools).

The GAPSS Analysis supports the following Georgia Department of Education strategic goal and strategies:

Goal 4: Develop strong educational leaders, particularly at the building level.

Strategy: Provide ongoing support to school leaders to ensure a focus on continuous school improvement through the Keys to Quality.

Strategy: Prepare building level leaders to support academic rigor in curriculum and instruction.

State-Directed schools in Needs Improvement levels five and above are required to participate in the mandatory GAPSS Analysis. The GAPSS Analysis is a three day, on-site review designed to assess the participating school in the eight areas of the School Keys or school standards. The eight areas include the following strands.

1. Curriculum
2. Assessment
3. Instruction
4. Planning and Organization
5. Student, Family, and Community Involvement and Support
6. Professional Learning
7. Leadership
8. School Culture

The GAPSS Analysis provides the instruments and tools needed to determine school strengths and needs. Based on quantitative and qualitative data collected from a variety of sources (classroom observations, document review, interviews, and surveys), the GAPSS Analysis provides school and system leadership with recommendations that can be used to assist with school improvement planning as well as progress monitoring. Schools receiving the mandatory GAPSS Analysis are provided with follow-up support and monitoring.

The GAPSS team is comprised of approximately six to eight members, based on the number of certified staff in the participating school. Team leaders are employed by the Georgia Department of Education. All team members have a background in education and may have expertise in identified areas such as special education, mathematics, etc. Team members are determined by identified school needs, location of the school, and school size.

Appendix A12: GAPSS Results

Mandatory GAPSS were first conducted in the 2005-2006 school year. The following information provides details on the number of schools that received mandatory GAPSS Analyses as well as the number of schools that made Adequate Yearly Progress following a mandatory GAPSS Analysis.

2005-2006 Mandatory GAPSS Reviews

- 48 Mandatory GAPSS Reviews were conducted
- 27 schools made AYP in 2006 (56%)
  12 of the 27 schools came off of the NI list (44% of the 27 schools that made AYP)
- 33 Made AYP in 2006 and/or 2007 (69%)
  20 of the 33 schools came off of the NI list (61% of the 33 schools that made AYP)

2006-2007 Mandatory GAPSS Reviews

- 6 Mandatory GAPSS Reviews were conducted
- 0 schools made AYP in 2007 (0%)
  0 schools came off of the NI list
- 4 schools made AYP in 2008 (67%)
  0 of the 4 schools came off of the NI list

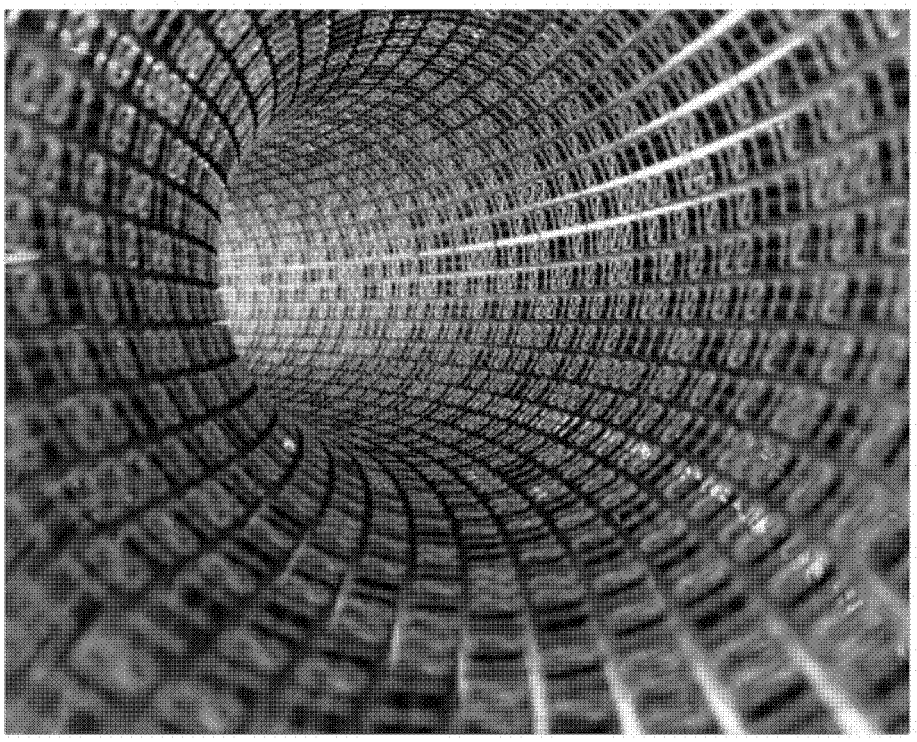
2007-2008 Mandatory GAPSS Reviews

- 10 Mandatory GAPSS Reviews were conducted
- 7 schools made AYP in 2008 (70%)
  0 of the 7 schools came off of the list
- 8 schools made AYP in 2008 and/or 2009 (80%)
  5 of the 8 schools came off of the NI list (63% of the 8 schools that made AYP)

2008-2009 Mandatory GAPSS Reviews

- 27 Mandatory GAPSS Reviews were conducted
- 22 schools made AYP in 2009 (82%)
  9 of the 22 schools came off of the NI list (41% of the 22 schools that made AYP)

Alliance Math and Science Task Force



2008

The Alliance of Education Agency Heads

Appendix A13: Alliance Math and Science Task Force Recommendations

Introduction

In the mid 1950s, the space race was on. Our nation was responding to Sputnik, and our shortcomings in teaching mathematics and science were of grave concern. Aggressive funding, recruitment and training programs at both the federal and state levels enabled the U.S. to pull even and then take the lead in international efforts to explore our newest frontier. These efforts typically ended by the 1980s, and severe shortages of math and science teachers were again rampant by the 1990s and continue today.

The race is on once again and, in 2008, the stakes are dramatically higher. America stands to lose its competitive edge and fall short in today's globally connected economy. Recent studies and reports have expressed urgent concerns about the loss of America's competitive advantage and the growing economic impact on its citizens. Leaders from business, government and education have proposed a range of strategies, all of which contain recommendations focused squarely on a critical piece of the solution: a sufficient supply of excellent teachers who are well-trained in their profession and well-grounded in their content area of expertise.

In 2007, a report submitted to Congress estimated that nationally approximately 44.7% of the high school students in biology/life science, 61.1% of the students in chemistry, and 66.5% of the students in physics are being taught by teachers who have no academic major and certification in that specific teaching field. The Business and Higher Education Forum of 2007 estimated that the United States would need about 280,000 new teachers in science and math by 2015.

Today, in Georgia, we have a critical shortage of qualified mathematics and science teachers. The most troubling aspect of this situation is that it will worsen dramatically, unless aggressive and immediate action is taken. For example:

- Georgia is the third fastest growing state in the nation. Our student enrollment growth over just • the next few years will require a significant increase in the number of mathematics and science teachers needed in our schools.
- The Georgia Department of Education (GaDOE) recently made needed and positive changes • to the High School Graduation Rule. One positive change requires four years of mathematics and science for all students as a graduation requirement. While we all understand the positive aspect of this change, it will require the employment of more high school mathematics and science teachers.
- The GaDOE also implemented needed and positive changes in the mathematics curriculum. The • move to an integrated mathematics program at the secondary level has tremendous potential to positively impact student achievement. However, many secondary mathematics teachers with twenty eight or more years of experience will likely not choose to make the transition to the new curriculum, which will create an increase in the attrition rates for secondary mathematics teachers on at least a temporary basis. Additionally, mathematics courses that were not meaningful, challenging or rigorous were eliminated from high school curriculum offerings. Alliance Math/Science Task Force 4

Again, while this change was needed and proactive, it will significantly impact the workforce. Because we will continue to have students entering the 9th grade without the necessary skills to successfully complete the new mathematics courses, a support mechanism had to be developed. This support mechanism places students not prepared to successfully complete mathematics course work in a "companion" math course to prepare them for the new and increased level of rigor in the mathematics curriculum. A reasonable estimate is that 30% of high school students will need a companion math class, dramatically increasing the need for high school math teachers.

- Our current production of mathematics teachers falls far short of current needs, let alone future • needs.
- The requirement of four years of science in combination with the types of sciences that students • will have to successfully complete places a heavy strain on local schools.

Appendix A13: Alliance Math and Science Task Force Recommendations

- Students will have to successfully complete Biology, Physical Science or Physics, Chemistry, • Earth Systems, or Environmental Science, and a fourth year of science to graduate. Last year, the University System of Georgia (USG) produced only three Physics educators. Teacher production in the areas of Earth Systems, Environmental Science and even Chemistry are similarly inadequate.
- For our students in Georgia to compete nationally and internationally, they must be given • opportunities to experience high level science and mathematics courses.

Today's challenge requires the same commitment, focus and aggressive action that addressed our nation's concerns in the mid 1950's. Anything less will result in inferior instruction in mathematics and the sciences, which will cripple our economic competitiveness. The existence of a capable scientific and technological workforce is required due to our transition from a labor-based economy to a knowledge/service- based economy. This change means that workers need more sophisticated skills in mathematics, science and technology. Pre-college (P–12) mathematics and science instruction provides the foundation for these skills.

To review the issues surrounding the teacher shortages in mathematics and science, the Alliance of Education Agency Heads created a statewide task force for the purpose of exploring realistic and affordable strategies to increase the number of mathematics and science teachers in Georgia. The recommendations of the Math/Science Task Force in this report represent the knowledge, experience and best thinking of respected leaders in public education, higher education and the private sector. Without exception, the members of this Task Force endorse the following recommendations and urge The Alliance of Education Agency Heads, the Governor and members of the General Assembly to carefully review these recommendations and move forward aggressively to implement them.

Appendix A13: Alliance Math and Science Task Force Recommendations

Task Force Members

Diane Bradford	Deputy Superintendent, Office of Education Support and Improvement, Georgia Board of Education
Renee Byrd-Lewis	Director, Community Relations, Scientific Atlanta
Cindi Chance	Dean, College of Education, Georgia Southern University
Ann Cramer	Director of North America, IBM Corporate Citizenship
Steve Dolinger	President, Georgia Partnership for Excellence in Education
Adrian Epps	Associate Dean, College of Science & Mathematics, Kennesaw State University
Herb Garrett	Executive Director, Georgia School Superintendents Association
Stephanie Gordy	Executive Director, Griffin RESA
Kelly Henson	Executive Secretary, Georgia Professional Standards Commission
Phil Horton	Professor, Covenant College, Georgia Association of Independent Colleges of Teacher Education
Sheila Jones	Senior Executive Director of P-16 Programs, Board of Regents of the University System of Georgia
Jan Kettlewell	Vice Chancellor, Board of Regents of the University System of Georgia
Connie Kopcsak	Master Teacher, Math, Whitfield County Schools
Teresa MacCartney	Division Director-Educational Development Division, Office of Planning and Budget
Kathleen Mathers	Director of External Relations, Governor's Office of Student Achievement
Bill McCargo	Vice President of Community Relations, Scientific Atlanta
Paul Ohme	Director, Georgia Tech, Center for Education Integrating Science, Mathematics & Computing (CEISMC)
Trish Paterson	Executive Director, Teacher Quality Initiatives, Board of Regents of the University System of Georgia
Jose Perez	Member, Georgia State Board of Education
Mark Pevey	Senior Executive Director, P-16 Data and Operations, Board of Regents of the University System of Georgia
Stephen Pruitt	Director of Academic Standards, Georgia Department of Education
Bettye Raye	Superintendent, Social Circle City Schools
Jennifer Rippner Buck	Executive Director, Governor's Office of Student Achievement
Holly Robinson	Commissioner, Bright from the Start, Georgia Department of Early Care and Learning
Bobby Stephens	Consultant, Metro RESA
Pam Walker	Master Teacher, Science, Douglas County Schools

Appendix A13: Alliance Math and Science Task Force Recommendations

Differentiated Pay

Proposal Overview:

Description:

- Entry-level math and science teachers in grades 6–12 with a clear renewable certificate • will be placed on Step 4 of the Georgia Teacher Salary Scale (bypassing the normal Steps E, 1, 2, and 3).
- Other Math and Science teachers with a clear renewable certificate currently below Step • 4 will also be moved to Step 4. This will be implemented at each of the T-4, T-5, T-6 and T-7 levels.
- Table B reflects the 2009 (Tentative) State Teacher Salary Schedule of Georgia, including • the various "Years of Experience" steps and the T-4 to T-7 Degree Levels. Table B also includes estimated costs associated with the proposed four step salary jump. Cost estimates are based on the numbers of math and science teachers with clear renewable certification who taught in Georgia during FY 2008 (the project's baseline dataset).
- The rules for step-increase participation include: (a) Hold a clear renewable certificate, • (b) Teach math or science the majority of the school day, (c) Exiting math/science teaching will revert the individual to their regular salary step (where they would have been), and (d) All math and science teachers with clear renewable certificates who are below Step 4 will also be moved to Step 4.
- To maximize the quality of the expanded pool of math and science teacher candidates, • each of those who participate will have 5 years to reach Master Teacher status. A major component of Master Teacher criteria is improved student performance. Those not attaining this status will revert back to their regular salary step (where they would have been had they not participated in the elevated salary program).
- The four step salary-bump strategy has the flexibility for future modification (upward • or downward) based on the cost or the future effect on the size of the new teacher pool.

Who will be the change agent responsible for the work?

- GaDOE staff will maintain the database required to monitor the advanced pay levels of • math and science teachers, via the CPI report , in order to track pay enhancements;
- Local school systems will follow state guidelines in the hiring and payment of math • and science teachers, and can continue to do so using the revised payment amounts in accord with the State Teacher Salary Schedule; and
- The Alliance of Education Agency Heads will contract with and/or establish an Oversight • Team to manage, coordinate and evaluate the effort (see Evaluation and Budget sections for particulars)

What are the action steps?

- The Governor and legislature provide funding approval for the Step 4 placement at a • first year cost of $9.59 million;
- A public information campaign is mounted to publicize the math and science teacher • differential pay plan in Georgia (newspaper articles, business world announcements, college/university notification, teacher recruitment effort disseminations, etc.); and
- GaDOE and local school systems implement the advanced salary assignment tracking • system for math and science teachers.

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How long will it take? Progress expected annually?

- The impact will be immediate towards the goal of increasing the statewide pool of math and science teachers. As soon as the information is disseminated, the numbers of candidates are expected through: (a) enrollment in alternative certification programs, (b) reconsideration by future and current education candidates of majoring in math/science, and (c) recruitment of out-of-state candidates;
- Long-term results will require a three-year trial window that is necessary because of • interconnected dynamics such as increased Alternative Certification capacity statewide and regular Teacher Education degrees awarded; and
- Evaluation should be conducted continuously during the first three years and reported • quarterly and annually (see Evaluation Section for the recommended evaluation tasks, including milestones of desired annual progress).

Differentiated Pay for Early Childhood Education (ECE) Teachers with a P-5 Math and/or Science Endorsement

Proposal Overview:

- The GaPSC created the standards for the P-5 Mathematics Endorsement and the P-5 Science • Endorsement in 2002, and administers the awarding of the endorsements on a teacher's certification.
- Institutions of Higher Education (IHE), P-12 school districts and RESAs can apply to the GaPSC • for program approval in order to offer courses to meet the standards. Other potential program providers will seek and gain approval.
- ECE teachers will have many opportunities to complete the courses needed to receive the • endorsements. Examples include:
  - completing the courses at an IHE;
  - participating in a cohort group from a school district and having the instructor (from an IHE, RESA or school district) deliver the course at the teacher's work site;
  - completing the courses at the RESA from an approved instructor;
  - completing the courses online through various IHEs, RESAs, etc.; or
  - graduating from a program for ECE education that includes the endorsement courses.

- The endorsements are already in place. Incentives should be put in place beginning with the 2009–• 10 school year.
- The number of teachers with the endorsements will be provided by GaPSC annually.

High School/Middle School Core Content Alternative Route to Certification

Proposal Overview:

An additional route to alternative certification will be developed for prospective teacher candidates in high school and middle school math, science, English, foreign language, all subjects comprising social studies. In order to be issued a 3 year non-renewable teaching credential the candidate must have a bachelor's degree, 2.5 grade point average and pass the GACE Basic Skills and Content Area Assessments. Upon receiving the non-renewable credential, the teacher would have three years to complete an intensive coaching program, complete Georgia special requirements and pass the GACE Pedagogy Assessment. Upon completion of these requirements the teacher would be issued a 5 year clear renewable certificate.

Appendix A13: Alliance Math and Science Task Force Recommendations

"Adjunct Faculty" Credential

Proposal Overview:

The GaPSC will create special licenses (name TBA) designed for math and science experts willing to teach math and science classes in grades 6–12 in an "adjunct faculty" position. The license could be valid for one year and could be renewed annually.

Use of "adjunct faculty" is intended as a means whereby local school systems can meet short-term needs for math/science instruction. "Adjunct faculty" shall not be utilized as a full-time employee. If an individual wishes to teach on a full-time basis, she/he must pursue full teacher certification. "Adjunct faculty" shall serve in a less-than-50% capacity.

Initial award of the license would be contingent on the following:

- It is necessary that any individual receiving the license possess sufficient content knowledge to • teach the Georgia curriculum in the subject area(s). The "Adjunct Faculty" would complete a 5 hour course on Georgia Performance Standards as a requirement to receive the license;
- Commitment in writing on the part of a school system that the individual will be paid in an • "Adjunct Faculty" position to teach a specific course(s); and
- Commitment in writing on the part of a school system that the individual will be paired with a • fully-certified teacher in the same school in the same general subject area. While the individual may have significant experience in a field, he/she may not be expert at teaching students in grades 6–12. The mentor/supervising teacher will provide support as needed

The renewal of the "Adjunct Faculty" license for an additional year would be contingent on:

- Continued employment in an "Adjunct Faculty" position by the same school system (not • necessarily at the same school). If the individual wants to hold the license to teach in a different school system, the individual must complete the initial award procedures for obtaining the license to teach in the new school system.
- Recommendation by the system employing the individual. This recommendation must • document that the individual's performance meets the expectations of the system. The recommendation should also comment on the academic performance of the students taking the classes taught by this individual.

Set-Asides for Service Cancelable Loans for Prospective Mathematics and Science Teachers: Promise Teacher Scholarship Loan Program and HOPE Teacher Scholarship Loan Program

Proposal Overview:

The State of Georgia offers two service cancelable loan programs administered by the Georgia Student Finance Commission (GSFC) that are designed to encourage individuals to enter the teaching profession or obtain advanced degrees in teaching fields that are determined to be in high demand. The programs are The PROMISE Teacher Scholarship Loan Program and The HOPE Teacher Scholarship Loan Program. For both programs, recipients repay their obligation by either working as a teacher in a Georgia public school or in cash.

The PROMISE Teacher Scholarship Loan Program assists students seeking their first undergraduate degree in education by providing up to $3,000 per academic year. Students must be classified as either a junior or senior in an approved education program and have a 3.0 GPA.

Appendix A13: Alliance Math and Science Task Force Recommendations

The HOPE Teacher Scholarship Loan Program assists Georgia teachers and individuals who plan to become teachers to pursue an advanced degree (Masters, Specialist or Doctorate) or to pursue approved endorsement programs in critical shortage teaching fields in Georgia. The program provides up to $10,000 in assistance.

In support of the need for additional teaching professionals in the math and science teaching tracks, under this proposal the GSFC agrees to do the following:

- GSFC will set aside an annual allocation of $1 Million for the Promise Teacher Scholarship • Loan Program and $2 Million for the HOPE Teacher Scholarship Loan Program;
- The allocation will be reserved for those students who by application for the program, indicate • their intention to pursue education degrees in math and science education tracks and commit to repaying the loan through service in their chosen field in a Georgia public school. The allocation will be reserved until October 31st of each year;
- Program applications will be processed on a first come first served basis with renewal applications • being processed first;
- Applications will be processed until funding is exhausted for both programs; •
- Any funds remaining in the allocation as of October 31• st of each year will be released to all other critical shortage fields in both programs. For non math and science tracks, any applications received but not funded will be processed in the order received;
- Applications received for spring semester math and science fields will be funded first to the • extent funds are available;
- All other program rules and regulations governing both programs remain in effect and are • applicable including but not limited to: Student and institutional eligibility requirements, annual program maximum funding amounts and service cancellation requirements; and
- GSFC will disseminate information describing the program allocation and application processes • to the financial aid community

Increasing the Number of Approved Educator Preparation Programs in the Sciences

Proposal Overview:

- One factor that contributes to the shortage of science teachers in Georgia is the limited number • of approved programs. Some smaller colleges have reduced the number of science education programs, partly due to the workload required by current program approval procedures. And some smaller colleges no longer offer multiple science specialty areas since the number of specific requirements has increased.

Action Steps:

- Step 1—The GaPSC would simplify the approval process for Science Education Programs by • requiring a single program report. As part of that report, institutions would provide separate standards matrixes for the science specialty areas they wish to offer (biology, chemistry, earth/space sciences, physics).

- Step 2—The GaPSC will give institutions greater flexibility to design programs to meet the • science specialty area standards. As an example, biology programs in Virginia require an "Understanding of the content, processes, and skills of biology, equivalent to an undergraduate degree in biology, with course work in genetics/molecular biology, botany, zoology, anatomy/physiology, and ecology[1]" as compared to 21 biology content-specific requirements in current GaPSC rules[2].
- Step 3—In carrying out the intent of this proposal, the GaPSC will do a thorough review of • all current program approval/review procedures and examine best practices from other states with the intent to further streamline the approval/review process and increase the number of math and science teachers in Georgia.

Mathematics and Science Beginning Teacher Retention

Proposal Overview:

Research indicates Comprehensive induction systems are more than twice as effective as basic induction programs. However, basic induction programs are not much better than no induction at all.[6] A comprehensive system includes:

- Coach/mentor;
- Supportive communication from school leaders;•
- Common planning or collaboration time with other teachers;•
- Reduced preparation/ help from teacher's aide; and•
- Participation in an external network of educators

The Alliance of Education Agency Heads should implement a comprehensive induction system that works for Georgia. A full proposal for this comprehensive induction system will be developed by the Implementation Team of the Alliance of Education Agency Heads. The proposal below reflects preliminary thoughts for a draft plan:

- Develop Induction and Coaching standards to ensure a clear understanding and accountability for the components of an effective induction system and the knowledge and skills needed for effective coaching;
- Align Induction and Coaching standards with requirements and skills needed for Academic Coaches, Master Teachers, Teacher Leader Endorsements, National Board for the Professional Teaching Standards (NBPTS) Certification, Teacher Support Specialist, etc. and with best practices in school improvement;
- Develop training program and materials (USG, RESAs, GLISI other providers);
- Identify targeted demonstration schools based on critical needs;
- Select Induction Coaches for Field Study;
- Use virtual and face-to-face delivery methods, train induction coaches and school leadership in • their respective roles (coaching and putting supportive conditions in place);
- Implement and evaluate Field Study and modify as needed;
- Redesign USG M.Ed. and Ed.S. programs to include coaching standards and training; and
- Make recommendations for statewide implementation.

Appendix A13: Alliance Math and Science Task Force Recommendations

Using Technology to Support Math and Science Certification and Instruction

Proposal Overview:

There are two main components to this proposal. The first involves expanding opportunities for students to engage in math/science courses through the expansion of the Georgia Virtual School. The second component involves opportunities for teachers who are in need of initial or renewal of certification, as well as those seeking math or science endorsements, to participate in online experiences through the Georgia Virtual School or other approved delivery systems.

The Georgia Virtual School currently funds 6,000 segments. The proposal is to increase this by 2,000 segments specifically allocated to math and science. This addition to the Georgia Virtual School would alleviate some of the strain in hard-to-staff areas of the state. This is also somewhat of a shift in thinking by targeting math and science classes rather than having a set number of segments for all areas. With the new Georgia High School Graduation Requirements now requiring four sciences, the need for quality science courses will be in greater demand. In addition, students will have to take either Physical Science or Physics to meet a requirement and either Chemistry, Earth Systems or Environmental Science to meet requirements. Physics is a particularly difficult course to staff due to low numbers entering the work force, yet the concepts learned are probably the most universally used in the average citizen's life. Earth Systems and Environmental Science are new additions to the possible requirements. These are also difficult to staff in many areas of the state, but more applicable to many citizens in terms of understanding the earth and the environment. Math will also be in greater need due to the requirement for all students to take four years instead of a select few.

In addition, a total of eight courses under this proposal will be developed to support certification and endorsement in collaboration with the USG. These courses, as well as others, could be delivered through multiple delivery systems including the Georgia Virtual School. The USG and its Chancellor have strongly emphasized the utility and efficiency of well-developed and appropriate virtual programs and courses. Georgia's independent college teacher preparation units are also encouraged to develop similar courses. The USG teacher preparation institutions have taken on this charge and have begun planning and developing ways of utilizing virtual courses and programs for math and science teacher preparation. The institutions have devised two approaches:

- Online Master of Arts in Teaching (MAT) Program in Science or Mathematics - USG teacher • preparation institutions will jointly develop and implement online math and science MAT programs. Such programs are designed for individuals who already hold a baccalaureate degree in math, science or a closely related field to receive the training necessary to become a teacher. USG IHEs are forming collaborative partnerships in the initial development and implementation of these programs. In many regions of the state the nearest institution offering a mathematics or science preparation program is many miles distant. Having the programs online allows individuals to enter the program without having to spend large amounts of time and money traveling to the institution. The flexibility these programs offer will allow more individuals to enter and complete teacher preparation programs in a shorter time.
- Content Preparation Courses—USG institutions will develop and implement specialized • online math and science courses known as "content-leveling courses" that are aligned with the GPS content assessed by the Georgia Assessments for the Certification of Educators (GACE). The purpose of the courses is to provide prospective and current teachers with a convenient, high quality way to ensure subject matter expertise to be successful in Georgia's classrooms. Aligning the content-leveling courses with the content areas covered in the GPS streamlines the process, and may result in the need to take fewer courses. These courses would be ideal for existing teachers who want to add a math or science certificate to their teaching credentials, resulting in more teachers qualified to teach math and science. Additionally, individuals in a teacher preparation program and individuals interested in entering a preparation program may take these courses to enhance and update their content knowledge.

Appendix A13: Alliance Math and Science Task Force Recommendations

In the case of both components, an advisory committee consisting of state and local education officials, as well as key industry stakeholders with the knowledge and accessibility to this type of technology, needs to be established. In this proposal, the GaDOE will continue its expansion of the Georgia Virtual School to include courses needed for math or science endorsements. There will also be a collaborative effort between GaDOE, USG, independent teacher education units, and external technology stakeholders to enhance availability and access to technology applications. The advisory committee will begin to explore ways to enhance math and science instruction through the use of video conferencing and online delivery of content. This conferencing will utilize our best teachers and allow them to have a larger impact outside of their classroom and school. The committee will also seek non-formal education groups to enhance math and science instruction by allowing students to have experiences using live data and virtual experiences to which they would not normally have access. The overall goal of this committee is to move the ability to deliver content into the 21st century. Content should be able to be delivered anywhere using any type of communications with any type of device.

Appendix A14: HB 280

House Bill 280 (AS PASSED HOUSE AND SENATE)

By: Representatives Coleman of the 97th, Ramsey of the 72nd, Cole of the 125th, Pruett of the 144th, Lindsey of the 54th, and others

A BILL TO BE ENTITLED

AN ACT

To amend Part 6 of Article 6 of Chapter 2 of Title 20 of the Official Code of Georgia Annotated, relating to employment under the "Quality Basic Education Act," so as to provide for additional compensation for teachers in mathematics or science under certain conditions; to provide for standards for mathematics and science endorsements; to provide for related matters; to repeal conflicting laws; and for other purposes.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF GEORGIA:

SECTION 1.

Part 6 of Article 6 of Chapter 2 of Title 20 of the Official Code of Georgia Annotated, relating to employment under the "Quality Basic Education Act," is amended by adding a new Code section to read as follows:

"20-2-212.5.

(a)(1) On and after July 1, 2010, and until such date as may be determined by the State Board of Education that mathematics, science, or both are no longer areas in which there is an insufficient supply of teachers, a secondary school teacher in a local school system who is or becomes certified in mathematics or science by the Professional Standards Commission shall be moved to the salary step on the state salary schedule that is applicable to six years of creditable service, unless he or she is already on or above such salary step. From such salary step, the teacher shall be attributed one additional year of creditable service on the salary schedule each year for five years.

(2) After five years, such teacher may continue to be attributed one additional year of creditable service on the salary schedule each year if he or she meets or exceeds student achievement criteria established by the Office of Student Achievement.

(3) Upon expiration of five years, or any year thereafter that the teacher does not meet or exceed student achievement criteria as required by paragraph (2) of this subsection, such teacher shall be moved to the salary step applicable to the actual number of years of creditable service which the teacher has accumulated.

(4) This subsection shall be subject to appropriations of the General Assembly.

(b)(1)(A) On and after July 1, 2010, a kindergarten or elementary school teacher in a local school system who receives an endorsement in mathematics, science, or both from the Professional Standards Commission shall receive a stipend of $1,000.00 per endorsement for each year each such endorsement is in effect, up to a maximum of five years.

(B) After five years, such teacher may continue to receive such stipend if he or she meets or exceeds student achievement criteria established by the Office of Student Achievement.

(C) Upon expiration of five years, or any year thereafter that such a teacher does not meet or exceed student achievement as required by subparagraph (B) of this paragraph, such teacher shall cease to receive the stipend.

(D) This paragraph shall be subject to appropriations by the General Assembly.

(2)(A) In order to qualify for the stipend pursuant to paragraph (1) of this subsection, math and science endorsements shall:

(i) Be based on post-baccalaureate nondegree programs, independent of an initial preparation program in early childhood education;

(ii) Consist of a minimum of three courses, of which two courses shall be focused on the advancement of content knowledge and one course, or any additional course, shall be focused on content-specific pedagogy and proven strategies for teaching math or science to children in kindergarten through fifth grade; and

(iii) Include an authentic residency experience with a focus on application of knowledge and skills.

(B) The Professional Standards Commission shall establish standards for the math and science endorsements provided for in this subsection."

SECTION 2.

All laws and parts of laws in conflict with this Act are repealed.

Georgia Department of Education

K-12 STEM Recommendations and Action Plan

Submitted by the K-12 STEM Advisory Taskforce

July 7, 2009

Appendix A15: K-12 STEM Recommendations and Action Plan

Georgia K-12 STEM Action Plan

Introduction

After nearly a year of preliminary discussions, meetings, and planning regarding STEM education, leaders in the Georgia Department of Education determined that a taskforce should be developed and convened in the fall of 2008 to commence work on a comprehensive K-12 STEM Education Action Plan. The taskforce was comprised of several individuals who had served on an initial STEM steering committee and was expanded to include other STEM constituencies that had not been included in the earlier meetings. A special emphasis was placed on inclusion of business and industry, K-12 local and district personnel, post-secondary representative from the University System of Georgia (USG) and the Technical College System of Georgia (TCSG), informal STEM organizations such as the Georgia Youth Science and Technology Centers, CIESMC, FIRST Robotics, BEST Robotics, and Georgia Professional Standards Commission (GaPSC) personnel. Over 90 individuals representing all areas of STEM were invited to serve. The group met for the first time on October 30, 2008 at the Georgia Tech Research Institute Conference Center in Atlanta, Georgia. Nearly 60 members of the new taskforce attended and DOE officials presented an overview of previous STEM education process and outlined the purpose and charge on the body.

Recommendations of the Taskforce

The K-12 STEM Taskforce and the related subcommittees worked from October 2008 to May 2009 identifying major issues and barriers involved with STEM education; discussing possible solutions to these issues; and developing a K-12 STEM Action Plan as charged by the DOE STEM Leadership Group. Because of time, budget, and policy constraints the committee developed a plan that was general enough in nature that leaders in the Georgia Department of Education, for which the recommendations were developed, could implement any or all recommendations; determine appropriate personnel to carry out such recommendations; determine needed funding sources and allocations; and determine appropriate policy development measures.

The document is intended to serve as a guide representing the many varied STEM stakeholders that will be needed to implement successful STEM education measures in Georgia. In its work, the committee and subcommittees reconfirmed many of the decisions, conclusions, and strategies developed by the original STEM steering committee, yet added a variety of recommendations representing a consensus of all STEM education stakeholders that had been lacking from the earlier initiatives. As such, these recommendations are intended as an addendum to and not a replacement for earlier decisions, directives, and initiatives made by the Department. With this in mind, the K-12 STEM Education Taskforce makes the following recommendations to leaders and policy makers within the Georgia Department of Education.

Appendix A15: K-12 STEM Recommendations and Action Plan

Georgia K-12 STEM Recommended Action Plan

Action 1: **Identify, evaluate, and develop effective STEM related curriculum and resources.**

Action Steps:

1. Develop and provide to local districts and schools an exhaustive list of existing STEM curricular resources.
2. Develop and provide to local districts and schools a STEM toolkit (i.e., curriculum evaluation rubrics, program evaluation rubrics, lesson and unit plan development templates) to aid in adoption and/or creation of STEM curriculum.
3. Increase the number, availability, and funding of virtual courses in STEM related curricular areas (i.e., physics, chemistry, calculus, statistics, computer science, and other AP courses), particularly to regions of the state that lack the teachers and numbers of students to offer these courses locally.
4. Identify and provide to local districts and schools effective strategies and best practices for implementation of successful rigorous and relevant learning for STEM related curricular areas.

Action 2: Create a concept framework to connect GPS to STEM related curricular areas.

Action Steps:

1. Bring STEM practitioners and administrators together in workshops, summer institutes, and other professional learning activities to develop real world tasks connecting subject area performance standards with identified effective STEM instructional strategies utilizing the STEM toolkit from Action Step 1:1.
2. Align work force profiles with academic curriculum.
3. Develop and implement specific introductory classes at elementary and middle school levels for all Georgia students.
4. Identify and develop pathways for sciences, mathematics, pre-med, computer sciences, and engineering (STEM specific careers).

Action 3: Develop and deliver a targeted STEM awareness campaign for Georgia district leaders and school boards.

Action Steps:

1. Develop a STEM awareness presentation to be delivered at the Georgia School Superintendents Association and the Georgia School Board Association in December 2009 joint conference at the Cobb Galleria.
2. Publicize STEM efforts through publications of these organizations.

Action 4: Develop and deliver a targeted STEM awareness campaign for students, instructors, and school administrators.

Action Steps:

1. Develop and offer an *Introduction to STEM* professional development module which targets teams of school level educators. This course would act as a prelude to more specific content and application based professional development modules which could be delivered by a variety of agencies and/or contracted service providers.

2. Develop and integrate STEM focused themes into student competitions through Career Tech Student Organizations (CTSO's) and other student activities and organizations such as Robotics, Science Olympiad, Odyssey of the Mind, Engineers Weeks, etc.

Action 5: Develop and deliver a general STEM awareness campaign aimed at parents and to the general public

Action Steps:

1. Utilize various means of media (PTA, school & community newsletters; websites, blogsites, podcasts, public service announcements, newspapers, etc.)
2. Focus the campaign on workforce development, salaries, wages, importance and value of STEM careers, etc.

Action 6: Organize and implement a Georgia STEM clearinghouse/website where educators and other interested parties can obtain STEM curricular resources, lesson plans, activities, field trips ideas and GPS updates.

Action Steps:

1. Seek a non-partisan entity, similar to the Battelle Corporation in Ohio that can coordinate this clearing house.
2. Establish regional STEM communication and support centers where all STEM stakeholders and interested parties can go for the latest STEM information, updates, and training (RESA's; Educational Technology Centers; Youth Development Organizations, University Outreach Centers; Science and Technology Museums; Technical Colleges).

Action 7: Identify existing Professional Development characteristics and programs which lead to a measurable and sustainable impact in achieving the STEM vision.

Action Steps:

1. Provide local districts with an exhaustive list of effective characteristics found in existing STEM professional development programs.
2. Develop appropriate professional development training modules and necessary oversight which ensures that STEM educators utilize strategies and develop programs congruent with the STEM vision. Such modules should be focused on both content and application to ensure that instructors utilize the principals of rigor and relevancy when delivering STEM related content.
3. Develop training and oversight using the results of action step 7:1 to ensure that program providers for the Math and Science Endorsement recently signed into law for elementary teachers, implement a program congruent with achieving the STEM vision; that they follow the GPS; are content oriented; integrate effective content and pedagogy; and are grounded in sound research.
4. Ensure that the Math and Science endorsement training is available throughout all of Georgia by a variety of means including face-to-face, virtual, or a mix of delivery strategies and through a variety of agencies that are spread throughout the state.

Appendix A15: K-12 STEM Recommendations and Action Plan

Action 8: **Develop a 3 to 5 unit PLU course on application of STEM concepts for certification renewal (similar to the technology requirement).**

Action 9: **Develop an application process where middle or high schools could apply to become a STEM specialty school, and provide multi-week institutes to train faculty and on-site support staff in a job embedded collaborative environment. Specialty schools should include career academies, magnets, charters, theme, or other innovative models that ensure that students of all ability levels are provided an adequate STEM education.**

Appendix A15: K-12 STEM Recommendations and Action Plan

Georgia Department of Education

K-12 STEM Education Taskforce

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Appendix A15: K-12 STEM Recommendations and Action Plan

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Appendix A15: K-12 STEM Recommendations and Action Plan

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Appendix A15: K-12 STEM Recommendations and Action Plan

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Model Participating LEA Memorandum of Understanding

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

I. SCOPE OF WORK

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

II. PROJECT ADMINISTRATION

A. PARTICIPATING LEA RESPONSIBILITIES

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

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

B. STATE RESPONSIBILITIES

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

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

C. JOINT RESPONSIBILITIES

1) The State and the Participating LEA will each appoint a key contact person for the Race to the Top grant.
2) These key contacts from the State and the Participating LEA will maintain frequent communication to facilitate cooperation under this MOU.

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

D. STATE RECOURSE FOR LEA NON-PERFORMANCE

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

III. ASSURANCES

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

IV. MODIFICATIONS

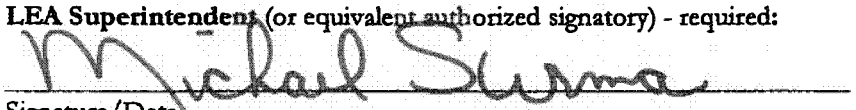
This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved, and in consultation with ED.

V. DURATION/TERMINATION

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

VI. SIGNATURES

LEA Superintendent (or equivalent authorized signatory) - required:

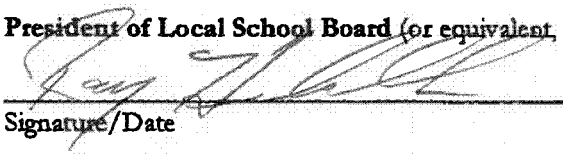


Signature/Date

Michael Surma, Superintendent

Print Name/Title

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



Signature/Date

Ray Hudalla, Board Chairman

Print Name/Title

Local Teachers' Union Leader (if applicable):

N/A

Signature/Date

N/A

Print Name/Title

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

Signature/Date

Print Name/Title

Exhibit 1

"Preliminary Scope of Work"

Exhibit 1a – Preliminary Scope of Work on Standards & Assessments

Section (B)(3) – Supporting the Transition to Enhanced Standards and High-Quality Assessments

The Participating LEA agrees to implement the following portions of the State Plan:

1) **Implement the Georgia Performance Standards (GPS) faithfully (until rollout of Common Core Standards)**
    a. Use Georgia's GPS-aligned frameworks in core academic subjects
    b. Provide professional development to teachers on how to use GPS-aligned frameworks in core academic subjects
    c. Track fidelity of implementation by including and rating teachers on a category such as "teaching to standards" in the qualitative (rubrics-based) teacher evaluation tool

2) **Support the State in future rollout and implementation of Common Core Standards**
    a. Align professional development (PD) programs at the LEA to include PD on new standards and effective delivery of new standards
    b. Track fidelity of implementation by including and rating teachers on a category such as "teaching to standards" in the qualitative (rubrics-based) teacher evaluation tool

3) **Commit to an assessment plan aligned to state standards, and use assessment results to inform curriculum, instruction and individual interventions.**
    a. Implement systematically a system of formative and benchmark assessments
    b. Put in place or maintain a system in place to track, analyze, and use assessment results
    c. Provide professional development to teachers on how to use formative, benchmark and summative assessments data to modify instruction and to boost student learning

4) **Establish common planning time for teachers at all school levels (elementary, middle, high)**
    a. Common planning could be organized by:
        i. Grade level (at the elementary school level), or
        ii. Subject area (middle and high school level)
    b. Modify school schedules as needed to allow for common planning time for teachers, without reducing time devoted to student instruction
    c. Focus common planning time on curriculum mapping, collaborative grading, and data-driven evaluations of student learning (e.g., using formative and summative assessment data to modify instruction and develop individual interventions)

Exhibit 1b – Preliminary Scope of Work on Data Systems

Section (C)(2) – Accessing and Using State Data
Section (C)(3) – Using Data to Improve Instruction

The Participating LEA agrees to implement the following portions of the State Plan:

1) **Accessing and Using State Data** ***(Section C(2) in RTTT Notice)***
   a. Provide input throughout the process of developing user-friendly interfaces (front-end systems) that will allow LEAs (district and school administrators, teachers, parents and students) to access relevant district, school, teacher and student data (different reports/levels of access for each audience)

2) **Using Data to Improve Instruction – Increase acquisition, adoption, and use of local instructional improvement systems** ***(Section C(3)(i) in RTTT Notice)*** **– See Appendix A, incorporated herein by this reference, for definition of instructional improvement systems**
   a. Ensure that any instructional improvement system in place is being fully utilized by teachers and administrators
   b. An acceptable use of funds distributed by the State through the Race to the Top grant is the purchase of an instructional improvement system if the LEA does not already have one

3) **Using Data to Improve Instruction – Provide effective professional development to teachers, principals and administrators on how to use these systems and the resulting data systems** ***(Section C(3)(ii) in RTTT Notice)***
   a. Provide effective professional development to teachers and principals on the use of state-level data and local data (e.g., summative assessment data, formative and benchmark assessment data)
   b. Provide effective professional development to teachers and principals on the use of any instructional improvement system in place in the LEA (including any reporting tools or dashboards)

4) **Using Data to Improve Instruction –Make the data from instructional improvement systems, together with statewide longitudinal data system data, available and accessible to researchers** ***(Section C(3)(iii) in RTTT Notice)***
   a. Provide data requested by the Department of Education (DOE) to support the DOE's efforts to make data available to researchers for the purpose of evaluating the effectiveness of instructional materials, strategies, and approaches for educating different types of students and to help drive educational decisions and policies.
      i. Continue to collect and provide data to the Department of Education (as defined/agreed to by current data collections)
      ii. Provide new data to the Department of Education (as defined/agreed to through collaborative discussions between the State and participating LEAs)

Exhibit 1c – Preliminary Scope of Work on Teacher and Principal Effectiveness

Section D(2) – Improving Teacher and Principal Effectiveness based on Performance
Section D(3) – Ensuring Equitable Distribution of Effective Teachers and Principals
Section D(5) – Providing Effective Support to Teachers and Principals

The Participating LEA agrees to implement the following portions of the State Plan:

1) **Georgia will put in place a common statewide evaluation system that will allow the State to ensure consistency and comparability across districts (based on a common definition of teacher / principal effectiveness). Participating LEAs will:**
    a. Work collaboratively with the State of Georgia to finalize the components of the common evaluation system
    b. Implement the evaluation system in their schools when it is finalized

2) **The evaluation system will allow the State to develop a single Teacher Effectiveness Measure (TEM) for each teacher and a single Leader Effectiveness Measure (LEM) for each school leader. Participating LEAs will:**
    a. Collect summative evaluation data on their teachers corresponding to the common, mutually agreed upon teacher evaluation tool
    b. Collect summative evaluation data on their principals corresponding to the common, mutually agreed upon principal evaluation tool
    c. Submit evaluation data for each teacher and principal in their system to the State
    d. Agree to store teacher evaluation data in the Statewide Longitudinal Data System, and to use the data as a component in calculating the Teacher Effectiveness Measure
    e. Agree to store principal evaluation data in the Statewide Longitudinal Data System, and to use the data as a component in calculating the Leader Effectiveness Measure

3) **The evaluation system (TEM/LEM) will include several components: (a) a qualitative measure of effectiveness (rubrics-based evaluation tool); (b) a quantitative measures of effectiveness focused on student achievement and student growth outcomes; and (c) other quantitative measures of student engagement and achievement, to be researched and validated as part of the Race to the Top effort. Participating LEAs will:**

    a. Work with the State to establish clear approaches to measuring student growth and measure it for each individual student *(Section D(2)(i) of the RTTT Notice)*
        i. Share teacher and student academic data with a state-selected value-added model vendor who will run this data through a value-added growth model and calculate value-added scores for each teacher in "core" (tested) content areas
        ii. Work with a state-selected vendor to finalize any teacher-student linkages that may be necessary to develop reliable value-added data

b. Design and implement rigorous, transparent, and fair evaluation systems for teachers and principals that differentiate effectiveness using multiple rating categories that take into account data on student growth (as defined in the Race to the Top notice) as a significant factor, and are designed and developed with teacher and principal involvement *(Section D(2)(ii) of the RTTT Notice)*
    i. Adopt an evaluation system in which the quantitative value-added component will constitute at least 50% of the overall TEM for teachers in "core" areas (tested subjects) and at least 50% of the overall LEM for all school leaders
    ii. Work collaboratively with the State to develop other quantitative measures of student engagement and achievement, and pilot these measures as potential predictors of teachers' performance, e.g.:
        - Student surveys
        - Parent surveys
        - Peer surveys
    iii. Work collaboratively with the State to finalize other quantitative measures that will be included in the calculation of a Leader Effectiveness Measure (LEM), including at a minimum:
        - Student attendance (elementary, middle, high , and K12 schools);
        - Student graduation rates (high schools)

4) Clear expectations will be set for teachers and principals in terms of performance, and effective supports will be provided to teachers and principals to help them meet performance requirements. Participating LEAs will:

a. Conduct annual evaluations of teachers and principals that include timely and constructive feedback; as part of such evaluations, provide teachers and principals with data on student growth for their students, classes, and schools *(Section D(2)(iii) of the RTTT Notice)*
    i. Conduct face-to-face annual evaluations of teachers and principals
    ii. Share all data with teachers relevant to their summative annual evaluations (rubrics-based evaluation; value-added student academic growth data in those core content area where value-added data will be available; and any other quantitative measures that are being piloted)
    iii. Share all data with principals relevant to the summative annual evaluation (rubrics-based evaluation; value-added student academic growth data across core content areas; and other quantitative measures such student attendance and student graduation rate)
    iv. Work collaboratively with the State and other participating LEAs to develop a simple survey tool to be administered to all teachers and principals to assess how well the evaluation process is meeting core objectives (e.g., setting clear expectations; providing timely and constructive feedback; etc.)
    v. Conduct this survey regularly (e.g., annually) and share results with the State
    vi. Use survey results to modify the evaluation process within LEA, as needed

b. Provide effective, data-informed professional development, coaching, induction, and common planning and collaboration time to teachers and principals that are, where appropriate, ongoing and job-embedded *(Section D(5)(i) of the RTTT Notice)*
   i. Develop clear professional development priorities at the LEA level to provide overall framework within which targeted professional development (PD) programs for teachers and principals can be delivered
   ii. Align professional development (PD) programs at the LEA to include PD for teachers and principals on: GPS Standards (until Common Core Standards are released); on Common Core Standards (once released); effective delivery of new standards in the classroom; and use of formative, benchmark and summative assessments data to modify instruction and to boost student learning
   iii. Establish common planning time for teachers at all school levels (see Exhibit 1a-3). Common planning could be organized by: grade level (at the elementary school level); or subject area (middle and high school level). Modify school schedules as needed to allow for common planning time for teachers, without reducing time devoted to student instruction. Focus common planning time on curriculum mapping, collaborative grading, and data-driven evaluations of student learning (e.g., using formative and summative assessment data to modify instruction and develop individual interventions
   iv. Ensure that induction programs offered by the LEA to teachers are in agreement with new State teacher induction guidelines (See *Appendix B herein incorporated by this reference*).

c. Measure, evaluate, and continuously improve the effectiveness of those supports in order to improve student achievement *(Section D(5)(ii) of the RTTT Notice)*
   i. Regularly evaluate professional development supports based on student results
   ii. Discontinue supports that do not appear to improve student achievement

5) TEM (LEM) will be used to inform talent management decisions such as promotion, recertification, professional development supports, interventions, and differentiated compensation. Participating LEAs will use annual evaluations, at a minimum, to inform decisions regarding:

a. Developing teachers and principals, including by providing relevant coaching, induction support, and/or professional development *(Section D(2)(iv) of the RTTT Notice)*. LEAS will:
   i. Develop clear professional development priorities at the LEA level to provide overall framework within which targeted professional development (PD) programs for teachers and principals can be delivered
   ii. LEA central office staff to work with principals to ensure that they have strong understanding of portfolio of PD options at the district level, and to ensure that they have the information on how to translate evaluation data into targeted PD recommendations for teachers

iii. LEA central office to work with teachers to ensure that they understand portfolio of PD options at the district level, and know what kind of PD they may need as they conduct self-reflection / self-evaluation

b. Compensating, promoting, and retaining teachers and principals, including by providing opportunities for highly effective teachers and principals (both as defined in this notice) to obtain additional compensation and be given additional responsibilities *(Section D(2)(iv) of the RTTT Notice)*. LEAs will:
   i. Tie step increases for teachers to teachers' performance on the qualitative rubrics-based evaluation tool, which will have multiple rating categories (beyond a simple satisfactory / unsatisfactory rating). A threshold overall rating score will be established collaboratively by participating LEAs and State to qualify a teacher for a step increase
   ii. Tie annual salary increases for principals to each principal's LEM. A threshold LEM will be established by participating LEAs and State to qualify a principal for an annual salary increase
   iii. Award individual performance bonuses to teachers on the basis of TEM, and to school leaders on the basis of LEM
   iv. Make additional individual bonuses available to core teachers in high-need schools if they reduce the student achievement gap (defined as the difference between performance of teacher's student group and State-developed benchmark / highest performing subgroup)
   v. Work with the State to develop career ladder opportunities for teachers (e.g., at the master teacher and teacher leader level) that allow to teachers to take on additional responsibilities for additional pay, while remaining in the classroom:
      1. An example of a teacher leader's responsibilities might be "peer review" or participation in the teacher evaluation process as an evaluator (additional voice in the evaluation process). LEAs may choose to appoint peer reviewers to participate in their evaluation processes, but are not obligated to do so.
   vi. Under the new system, effective teachers as determined by threshold TEM values will have equal or greater earning potential as under the current salary schedule
   vii. The new teacher compensation model will be an opt-in system. Current teachers who choose not to opt in will be grandfathered into their current salary structure

c. Whether to renew contracts to teachers and principals using rigorous standards and streamlined, transparent, and fair procedures *(Section D(2)(iv) of the RTTT Notice)*;
   i. The LEA will base decisions to award employment contracts to teachers and principals on the effectiveness measures described in (3) above

d. Removing ineffective teachers and principals after they have had ample opportunities to improve, and ensuring that such decisions are made using rigorous standards and streamlined, transparent, and fair procedures *(Section D(2)(iv) of the RTTT Notice)*

e. Ensuring the equitable distribution of teachers and principals by developing a plan, informed by reviews of prior actions and data, to ensure that students in high-poverty and/or high-minority schools have equitable access to highly effective teachers and principals and are not served by ineffective teachers and principals at higher rates than other students *(Section D(3)(i) of the RTTT Notice)*
   i. The LEA will develop a plan to use teacher and principal effectiveness data (TEM and LEM for teachers and principals, respectively) to make strategic placement and transfer decisions within the LEA, to ensure students in high-poverty and/or high-minority schools have equitable access to highly effective teachers and principals
   ii. The LEA may also utilize effectiveness measures that will become available on teacher and leader preparation programs (see (6) below) to guide and refine its recruiting and hiring practices, to target candidates from the most effective programs to its high-poverty and/or high-minority schools
   iii. The LEA may consider compensation incentives to attract effective teachers to teach in high-poverty and/or high-minority schools (additional funds may be available from the State on a competitive application basis)

f. Increasing the number and percentage of effective teachers teaching hard-to-staff subjects and specialty areas including mathematics, science, and special education; teaching in language instruction educational programs (as defined under Title III of the ESEA); and teaching in other areas as identified by the State or LEA. *(Section D(3)(ii) of the RTTT Notice)*
   i. The LEA will implement recruitment strategies to increase the pool of teachers available in the district in these subject areas
   ii. The LEA may consider compensation incentives to attract effective teachers to teach in hard-to-staff subjects, especially in high-poverty and/or high-minority schools (additional funds may be available from the State on a competitive application basis)

6) TEM (LEM) will also be used to guide broader policy decisions: E.g., Georgia will publicly report and link student achievement data (as captured by TEM and LEM) to the programs where teachers and school leaders were credentialed

a. Participating LEAs will share teacher and principal evaluation data (including linkages between teachers and students) with the State to allow for calculation of TEM and LEM. The TEM and LEM will in turn be a critical component of the Teacher Preparation Program Effectiveness Measure (TPPEM) and a Leader Preparation Program Effectiveness Measure (LPPEM), respectively
b. Participating LEAs may, but are not obligated to, use preparation program effectiveness measures when making recruiting and hiring decisions

Exhibit 1d – Preliminary Scope of Work on Lowest-Achieving Schools
Section E(2) – Turning Around Lowest-Achieving Schools

If the Participating LEA has schools that have been identified as "lowest- achieving schools" prior to execution of the MOU, the Participating LEA agrees to implement the following portions of the State Plan:

1) **Utilize incremental resources, made available to the LEA by the State through Race to The Top grant under the assurance of "Turning Around Lowest Achieving Schools", for the purposes outlined in this MOU**
    a. Targeted professional development for teachers and principals
    b. Credit recovery services
    c. Partnerships with local organizations to deliver innovative programs or courses
    d. Extended day /year opportunities for targeted student subgroups
    e. Additional teacher and principal financial incentives, as needed

2) **Agree to a rigorous review of existing resource allocations in the first year of the turnaround plan to ensure that existing resources are being deployed with maximum impact and to ensure financial sustainability of any new programs by the time the State's bridge funding ceases (after four years)**
    a. Engage State-selected vendor or another approved vendor to conduct rigorous resource allocation analysis
    b. Utilize analysis findings and recommendations to free up internal resources, over grant period of four years

3) **Agree to a State-level intensive diagnostic that will be performed by a state team of "turnaround experts":**
    a. State will recommend, with input from LEA, the most appropriate of 4 turnaround models specified in the RTTT Notice: a) turnaround, b) restart, c) school closure, or d) transformation model (see *Appendix C*, herein incorporated by this reference, for a detailed description of turnaround models)
    b. Based on the review (to be conducted between February and May 2010), the State and LEA agree to one of the four turnaround models for each lowest-achieving school within the LEA, and develop a more detailed plan to implement this model. The specifics of this plan will be included in an updated MOU (due to US Department of Education within 90 days of the RTTT award being issued to the State, i.e., July 2010). LEAs understand that failure to negotiate any term or condition necessary for implementation of the State plan will result in termination of the grant to the LEA
    c. The State is also including one feeder school per each lowest-achieving school in the turnaround effort. No additional funding will be provided for those feeder schools that are not already on the list of lowest-achieving schools, but LEAs commit to working collaboratively with the State to utilize existing resources to address feeder school issues.

d. To the extent that additional services and programs developed for lowest-achieving schools can be shared/extended to include the feeder schools mentioned above without detriment to the lowest-achieving schools, such efficiencies are highly encouraged

4) **Maintain or place a high-performing principal at the helm of the low-performing school with autonomy over staffing and budgets**

5) **Implement a new rigorous evaluation system for teachers and principals that will include a qualitative, observation-based component and a significant quantitative student achievement-based component. (See Exhibit 1b for details)**

6) **Pursue meaningful partnerships to advance applied learning opportunities, e.g.:**
   a. Internships for students with local businesses, non-profit groups, etc.
   b. Partnerships with local universities (e.g., to develop new math and science courses)
   c. Partnerships with national organizations (e.g., ROTC, science museums, informal education organizations, etc)

7) **Establish a minimum of 60 minutes per week of common planning time for teachers**
   a. Modify school schedules as needed to allow for common planning time for teachers, without reducing time devoted to student instruction
   b. Focus common planning time on curriculum mapping, collaborative grading, and data-driven evaluations of student learning (e.g., using formative and summative assessment data to modify instruction and develop individual interventions)

8) **Optimize use of existing time for all students:**
   a. Modify school schedules as needed

9) **Increase learning time for those students or student subgroups that need additional time:**
   a. Students subgroups in need of additional supports/time will be identified as part of initial LEA diagnostic
   b. LEAs/schools have flexibility in how to expand time. Possibilities include:
      i. Before and after-school classes/activities
      ii. Saturday school
      iii. Summer school
      iv. "Twilight School"
   c. LEAs/schools have flexibility in how to use expanded time and how to apply to subgroups of students. Possibilities include:
      i. Increasing amount of time devoted to teaching math, literacy, science, and other core subjects
      ii. Expanded learning blocks to allow teachers time to teach through hands-on, interactive projects
      iii. Integrated enrichment opportunities such as robotics, forensics, music, ceramics, video production, athletics

iv. Time for activities such as internships
v. Individual and small group tutoring

10) Commit to at least one full-time graduation coach that meets State-determined qualification criteria in each of the lowest-achieving schools (at the middle of high school level)

11) Commit to at least one full-time math coach per school in each school identified as "lowest-achieving"

a. Math coach is responsible for providing teachers at the school with consistent classroom observation and feedback on the quality and effectiveness of curriculum delivery and instructional practice
b. Also responsible for providing assistance with how to use data to inform and modify instructional practice

12) Implement the Georgia Performance Standards (GPS) faithfully and use Georgia's GPS-aligned frameworks in core academic subjects

13) Commit to an assessment plan aligned to state standards, and use assessment results to inform curriculum, instruction and individual interventions.

a. Schools implement systematically a system of formative and interim assessments
b. Schools have a system in place to track, analyze, and use assessment results

Appendix A

Definition of Instructional Improvement Systems and Related Definitions
(from RTTT Notice, pages 8-10)

Instructional improvement systems means technology-based tools and other strategies that provide teachers, principals, and administrators with meaningful support and actionable data to systemically manage continuous instructional improvement, including such activities as: instructional planning; gathering information (*e.g.*, through formative assessments (as defined in this notice), interim assessments (as defined in this notice), summative assessments, and looking at student work and other student data); analyzing information with the support of rapid-time (as defined in this notice) reporting; using this information to inform decisions on appropriate next instructional steps; and evaluating the effectiveness of the actions taken. Such systems promote collaborative problem-solving and action planning; they may also integrate instructional data with student-level data such as attendance, discipline, grades, credit accumulation, and student survey results to provide early warning indicators of a student's risk of educational failure.

Formative assessment means assessment questions, tools, and processes that are embedded in instruction and are used by teachers and students to provide timely feedback for purposes of adjusting instruction to improve learning.

Interim assessment means an assessment that is given at regular and specified intervals throughout the school year, is designed to evaluate students' knowledge and skills relative to a specific set of academic standards, and produces results that can be aggregated (*e.g.*, by course, grade level, school, or LEA) in order to inform teachers and administrators at the student, classroom, school, and LEA levels.

Rapid-time, in reference to reporting and availability of locally-collected school- and LEA-level data, means that data are available quickly enough to inform current lessons, instruction, and related supports.

Appendix B
Teacher Induction Program Preliminary Guidelines

Operational Definition: Teacher induction programs are programs that provide comprehensive, aligned, and sustained training and support for new and veteran educators that support the growth and professional development of educators new to the profession or organization so that their work results in increased student achievement.

Four Pillars of Induction Programs: Teachers new to the profession or organization experience three concurrent learning curves that could impact their ability to drive student achievement. These learning curves are associated with learning the culture, pedagogy, strategic initiatives and operations of the profession/organization.

I. Culture:
- Learning the organizations norms, beliefs, values
- Learning the vision and mission of the organization
- Learning the cultural underpinnings of the community stakeholders (parents, community organizations, etc)

II. Pedagogy:
- Learning and executing on the most foundational elements/teachers actions required to ensure student achievement (these should be taken from the TES rubric) – e.g. Long-term planning, assessments, vision for student achievement/ student achievement goals/targets, etc

III. Content/Strategic Initiatives:
- Aligning new hires to the strategic priorities of the state/district/school (i.e. literacy programs, reform models, etc).
- curriculum, assessment, standards, pacing guides, etc

IV. Operations:
- How things work in an organization (hiring paperwork, technology, resource allocation/requests, educational programs, teacher evaluation, leadership and career mapping, etc).

Division of Responsibility: The **State** will be provide a framework for teacher induction that outlines standards around the four pillars of teacher induction – culture, pedagogy, strategic initiatives and operations. The **District** will be responsible for constructing/executing a teacher induction program that is aligned to the State's framework and standards for effective teacher induction programs. The **School** will be responsible for constructing/executing a school specific teacher induction program that is aligned to the State's framework and standards for effective teacher induction programs.

Additional Considerations – Effective Induction Programs need to: (a) Differentiate for novice and veteran; (b) accommodate varying levels of teacher effectiveness; and (c) recognize school environment (high-need, high-poverty, high-minority, etc.).

Appendix C
Turnaround Models (from RTTT Notice, page 72)

Section X. 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 charter school operator, a charter management organization (CMO), or an education management organization (EMO) that has been selected through a rigorous review process. (A CMO is a non-profit organization that operates or manages charter schools by centralizing or sharing certain functions and resources among schools. 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, charter schools or 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 provided that the State-level turnaround analysis supports it.

Appendix A17: Evidence Table 2 [Detailed Table for (A)(1)]

	LEA Demographics			Signatures on MOUs			MOU Terms	Preliminary Scope of Work – Participation in each applicable Plan Criterion														
Partici-pating LEAs	# of Schools	# of K-12 Students	# of K-12 Students in Poverty	LEA Supt. (or equivalent)	President of local school board (if applicable)	President of Local Teachers Union (if applicable)	Uses Standard Terms & Conditions?	(B)(3)	(C)(3)(i)	(C)(3)(ii)	(C)(3) (iii)	(D)(2) (i)	(D)(2) (ii)	(D)(2) (iii)	(D)(2)(iv)(a)	(D)(2)(iv)(b)	(D)(2)(iv)(c)	(D)(2) (iv)(d)	(D)(3)(i)	(D)(3)(ii)	(D)(5)(i)	(D)(5)(ii)	(E)(2)
Atlanta	104	47,944	37,962	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ben Hill	4	3,158	2,507	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bibb	41	24,449	19,252	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Burke	5	4,438	3,973	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Carrolton	4	4,270	2,270	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Chatham	52	33,230	24,182	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cherokee	36	37,796	10,684	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Clayton	62	49,381	40,366	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Dade	4	2,723	1,280	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
DeKalb	140	96,678	68,328	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dougherty	26	15,838	12,909	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gainesville	7	6,296	5,031	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Gwinnett	119	158,438	79,468	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Hall	34	25,658	14,690	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Henry	51	40749	17,985	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Jones	8	5,368	2378	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Meriwether	8	3,092	2,689	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Muscogee	56	31,337	19,952	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Peach	6	4,527	3,078	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Pulaski	3	1,701	1,021	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Rabun	5	2,301	1,480	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Richmond	57	31,241	23,450	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Rockdale	18	15,526	9,449	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Spalding	18	10,419	7,555	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Valdosta	9	7,422	5,894	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
White	7	3,851	2,075	Y	Y	N/A	Yes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Total	**884**	**667,831**	**419,908**	**26**	**26**	N/A	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**26**	**15**
Statewide	**2,266**	**1,625,745**	**911,393**	**181**																		
% Statewide	**39.0%**	**41.1%**	**46.1%**	**14.4%**																		

NOTE:
N/A in Columnn (E)(2) = LEA does not have persistently lowest-achieving schools in its system

APPENDIX A18: EVIDENCE TABLE 5 - STATE GOALS Without Race to The Top

Period during which transition from Quality Core Curriculum to Georgia Performance Standards occurred.
Georgia's AMOs from the 2009 AYP Workbook
All NAEP are average scores
N/A under NAEP means Test Not Given in that year

	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change**
Reading													
NAEP-4th grade	26	N/A	26	N/A	28	N/A	29	N/A	31	N/A	34	N/A	3.0
NAEP -8th grade	26	N/A	25	N/A	26	N/A	27	N/A	29	N/A	32	N/A	3.0
CRCT 3rd grade	N/A	90	92	83	85	93	93	73.3	80	86.7	93.3	100	26.7
CRCT 5th grade	N/A	85	89	81	85	93	93	73.3	80	86.7	93.3	100	26.7
CRCT 8th grade	81	85	83	90	89	94	96	73.3	80	86.7	93.3	100	26.7
English-Language Arts													
CRCT 3rd grade	N/A	87	87	82	86	87	87						
CRCT 5th grade	N/A	85	88	85	88	90	91						
CRCT 8th grade	75	80	80	87	88	90	92						
Math													
NAEP-4th grade	26	N/A	30	N/A	32	N/A	34	N/A	36	N/A	38	N/A	2.0
NAEP -8th grade	21	N/A	23	N/A	25	N/A	27	N/A	29	N/A	31	N/A	2.0
CRCT 3rd grade	N/A	89	89	91	90	71	78	67.6	75.7	83.8	91.9	100	32.4
CRCT 5th grade	N/A	83	87	89	88	84	87	67.6	75.7	83.8	91.9	100	32.4
CRCT 8th grade	67	73	69	77	81	78	80	67.6	75.7	83.8	91.9	100	32.4
Science													
NAEP-4th grade	N/A	N/A	24	N/A	N/A	N/A	26	NA	NA	NA	28	NA	
NAEP -8th grade	N/A	N/A	26	N/A	N/A	N/A	28	NA	NA	NA	30	NA	
CRCT 3rd grade	N/A	83	84	85	70	75	80	82	84	86	88	89	7.0
CRCT 5th grade	N/A	86	89	89	67	71	76	78	80	82	84	85	7.0
CRCT 8th grade	N/A	76	74	76	74	60	64	66	68	70	72	75	9.0
Language Arts													
CRCT 3rd grade	N/A	87	87	82	86	87	87	73.3	80	86.7	93.3	100	26.7
CRCT 5th grade	N/A	85	88	85	88	90	91	73.3	80	86.7	93.3	100	26.7
CRCT 8th grade	75	80	80	87	88	90	92	73.3	80	86.7	93.3	100	26.7
Reading – NAEP 4th grade													
All students	26	N/A	26	N/A	28	N/A	29	N/A	30	N/A	32	N/A	2.0
Male	24	N/A	23	N/A	25	N/A	26	N/A	27	N/A	29	N/A	2.0
Female	30	N/A	30	N/A	31	N/A	33	N/A	35	N/A	37	N/A	2.0
White	38	N/A	37	N/A	40	N/A	40	N/A	42	N/A	44	N/A	2.0
Black	13	N/A	12	N/A	14	N/A	15	N/A	17	N/A	19	N/A	2.0
Hispanic	18	N/A	13	N/A	21	N/A	20	N/A	22	N/A	24	N/A	2.0
School lunch program eligible	15	N/A	13	N/A	15	N/A	18	N/A	20	N/A	22	N/A	2.0
Not eligible	40	N/A	41	N/A	41	N/A	44	N/A	46	N/A	48	N/A	2.0

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	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change**
Reading – NAEP 8th grade													
All students	28	N/A	25	N/A	26	N/A	27	N/A	29	N/A	31	N/A	2.0
Male	22	N/A	20	N/A	20	N/A	22	N/A	24	N/A	26	N/A	2.0
Female	30	N/A	30	N/A	31	N/A	32	N/A	35	N/A	37	N/A	2.0
White	36	N/A	35	N/A	38	N/A	35	N/A	37	N/A	39	N/A	2.0
Black	12	N/A	9	N/A	13	N/A	15	N/A	17	N/A	19	N/A	2.0
Hispanic	15	N/A	14	N/A	17	N/A	20	N/A	22	N/A	24	N/A	2.0
School lunch program eligible	12	N/A	11	N/A	14	N/A	14	N/A	16	N/A	18	N/A	2.0
Not eligible	38	N/A	36	N/A	37	N/A	40	N/A	42	N/A	44	N/A	2.0
Math – NAEP 4th grade													
All students	26	N/A	30	N/A	32	N/A	34	N/A	36	N/A	36	N/A	0.0
Male	29	N/A	30	N/A	53	N/A	35	N/A	37	N/A	39	N/A	2.0
Female	25	N/A	29	N/A	30	N/A	32	N/A	34	N/A	36	N/A	2.0
White	40	N/A	43	N/A	46	N/A	48	N/A	50	N/A	52	N/A	2.0
Black	10	N/A	13	N/A	13	N/A	15	N/A	17	N/A	19	N/A	2.0
Hispanic	14	N/A	22	N/A	20	N/A	26	N/A	28	N/A	30	N/A	2.0
School lunch program eligible	13	N/A	17	N/A	16	N/A	19	N/A	21	N/A	23	N/A	2.0
Not eligible	40	N/A	45	N/A	49	N/A	53	N/A	55	N/A	57	N/A	2.0
Math – NAEP 8th grade													
All students	21	N/A	23	N/A	25	N/A	27	N/A	29	N/A	31	N/A	2.0
Male	24	N/A	24	N/A	26	N/A	27	N/A	29	N/A	31	N/A	2.0
Female	19	N/A	23	N/A	23	N/A	27	N/A	29	N/A	31	N/A	2.0
White	32	N/A	34	N/A	37	N/A	39	N/A	41	N/A	43	N/A	2.0
Black	16	N/A	8	N/A	11	N/A	11	N/A	13	N/A	15	N/A	2.0
Hispanic	12	N/A	12	N/A	16	N/A	18	N/A	20	N/A	22	N/A	2.0
School lunch program eligible	10	N/A	10	N/A	12	N/A	13	N/A	15	N/A	17	N/A	2.0
Not eligible	34	N/A	34	N/A	37	N/A	41	N/A	43	N/A	45	N/A	2.0

APPENDIX A18: EVIDENCE TABLE 5 - STATE GOALS Without Race to The Top

Period during which transition from Quality Core Curriculum to Georgia Performance Standards occurred.
Georgia's AMOs from the 2009 AYP Workbook
All NAEP are average scores
N/A under NAEP means Test Not Given in that year

	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change**
Reading – CRCT 3rd grade													
All students	N/A	90	92	83	85	93	93	73.3	80	86.7	93.3	100	26.7
Male	N/A	88	90	80	83	91	91	73.3	80	86.7	93.3	100	26.7
Female	N/A	93	94	85	88	94	95	73.3	80	86.7	93.3	100	26.7
White	N/A	94	96	91	92	96	97	73.3	80	86.7	93.3	100	26.7
Black	N/A	87	88	75	78	89	89	73.3	80	86.7	93.3	100	26.7
Hispanic	N/A	80	85	74	77	89	91	73.3	80	86.7	93.3	100	26.7
Asian	N/A	95	96	92	93	97	96	73.3	80	86.7	93.3	100	26.7
Native American/Alaskan Indian	N/A	93	99	86	91	93	95	73.3	80	86.7	93.3	100	26.7
Multiracial	N/A	93	95	86	89	94	94	73.3	80	86.7	93.3	100	26.7
Students with Disabilities	N/A	75	82	67	68	77	77	73.3	80	86.7	93.3	100	26.7
Students without Disabilities	N/A	93	94	85	87	95	95	73.3	80	86.7	93.3	100	26.7
Limited English Proficient	N/A	70	77	66	70	87	89	73.3	80	86.7	93.3	100	26.7
Economically Disadvantaged	N/A	86	88	75	78	89	90	73.3	80	86.7	93.3	100	26.7
Not Economically Disadvantaged	N/A	95	97	91	93	97	98	73.3	80	86.7	93.3	100	26.7
Migrant	N/A	73	83	72	72	87	89	73.3	80	86.7	93.3	100	26.7
Reading – CRCT 5th grade													
All students	N/A	85	89	81	86	93	94	73.3	80	86.7	93.3	100	26.7
Male	N/A	82	86	79	84	91	92	73.3	80	86.7	93.3	100	26.7
Female	N/A	89	91	83	88	95	95	73.3	80	86.7	93.3	100	26.7
White	N/A	91	94	90	92	96	96	73.3	80	86.7	93.3	100	26.7
Black	N/A	79	85	72	78	90	90	73.3	80	86.7	93.3	100	26.7
Hispanic	N/A	71	78	71	78	89	91	73.3	80	86.7	93.3	100	26.7
Asian	N/A	91	93	90	93	97	96	73.3	80	86.7	93.3	100	26.7
Native American/Alaskan Indian	N/A	87	89	87	90	92	98	73.3	80	86.7	93.3	100	26.7
Multiracial	N/A	89	91	85	90	95	95	73.3	80	86.7	93.3	100	26.7
Students with Disabilities	N/A	59	70	59	64	72	73	73.3	80	86.7	93.3	100	26.7
Students without Disabilities	N/A	89	92	84	89	96	96	73.3	80	86.7	93.3	100	26.7
Limited English Proficient	N/A	55	62	53	64	81	84	73.3	80	86.7	93.3	100	26.7
Economically Disadvantaged	N/A	77	84	73	79	89	90	73.3	80	86.7	93.3	100	26.7
Not Economically Disadvantaged	N/A	92	95	90	93	97	97	73.3	80	86.7	93.3	100	26.7
Migrant	N/A	60	70	57	66	76	86	73.3	80	86.7	93.3	100	26.7

APPENDIX A18: EVIDENCE TABLE 5 - STATE GOALS Without Race to The Top

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	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change**
Reading – CRCT 8th grade													
All students	81	85	83	90	89	94	96	73.3	80	86.7	93.3	100	26.7
Male	77	81	78	87	86	92	94	73.3	80	86.7	93.3	100	26.7
Female	85	89	87	92	91	95	97	73.3	80	86.7	93.3	100	26.7
White	88	91	89	95	94	97	98	73.3	80	86.7	93.3	100	26.7
Black	73	79	76	85	84	91	94	73.3	80	86.7	93.3	100	26.7
Hispanic	65	69	68	79	80	87	92	73.3	80	86.7	93.3	100	26.7
Asian	88	91	90	93	94	96	97	73.3	80	86.7	93.3	100	26.7
Native American/Alaskan Indian	82	84	87	93	92	99	96	73.3	80	86.7	93.3	100	26.7
Multiracial	87	89	89	93	92	96	97	73.3	80	86.7	93.3	100	26.7
Students with Disabilities	43	50	50	65	61	72	78	73.3	80	86.7	93.3	100	26.7
Students without Disabilities	86	89	87	93	92	96	97	73.3	80	86.7	93.3	100	26.7
Limited English Proficient	46	49	45	58	58	70	79	73.3	80	86.7	93.3	100	26.7
Economically Disadvantaged	71	76	74	84	83	90	93	73.3	80	86.7	93.3	100	26.7
Not Economically Disadvantaged	89	92	90	95	95	97	98	73.3	80	86.7	93.3	100	26.7
Migrant	51	54	53	67	67	68	81	73.3	80	86.7	93.3	100	26.7
English-Language Arts 3rd grade													
All students	N/A	87	87	82	86	87	87	73.3	80	86.7	93.3	100	26.7
Male	N/A	84	84	78	82	84	83	73.3	80	86.7	93.3	100	26.7
Female	N/A	90	90	86	89	91	90	73.3	80	86.7	93.3	100	26.7
White	N/A	92	92	88	91	92	91	73.3	80	86.7	93.3	100	26.7
Black	N/A	82	82	76	80	82	81	73.3	80	86.7	93.3	100	26.7
Hispanic	N/A	77	77	72	79	83	84	73.3	80	86.7	93.3	100	26.7
Asian	N/A	94	94	93	94	96	95	73.3	80	86.7	93.3	100	26.7
Native American/Alaskan Indian	N/A	91	94	86	90	90	84	73.3	80	86.7	93.3	100	26.7
Multiracial	N/A	90	90	85	88	89	89	73.3	80	86.7	93.3	100	26.7
Students with Disabilities	N/A	67	68	60	65	67	64	73.3	80	86.7	93.3	100	26.7
Students without Disabilities	N/A	90	90	86	89	90	89	73.3	80	86.7	93.3	100	26.7
Limited English Proficient	N/A	65	66	62	72	79	81	73.3	80	86.7	93.3	100	26.7
Economically Disadvantaged	N/A	81	81	74	79	81	81	73.3	80	86.7	93.3	100	26.7
Not Economically Disadvantaged	N/A	93	93	90	93	94	81	73.3	80	86.7	93.3	100	26.7
Migrant	N/A	69	71	67	73	77	78	73.3	80	86.7	93.3	100	26.7
English-Language Arts 5th grade													
All students	N/A	85	88	85	88	90	91	73.3	80	86.7	93.3	100	26.7
Male	N/A	81	85	81	84	87	88	73.3	80	86.7	93.3	100	26.7
Female	N/A	89	92	89	91	93	94	73.3	80	86.7	93.3	100	26.7
White	N/A	90	93	91	92	93	94	73.3	80	86.7	93.3	100	26.7
Black	N/A	80	84	79	83	86	88	73.3	80	86.7	93.3	100	26.7
Hispanic	N/A	73	78	74	80	85	89	73.3	80	86.7	93.3	100	26.7
Asian	N/A	92	94	93	94	96	96	73.3	80	86.7	93.3	100	26.7

APPENDIX A18: EVIDENCE TABLE 5 - STATE GOALS Without Race to The Top

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	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change**
Native American/Alaskan Indian	N/A	86	90	88	92	88	95	73.3	80	86.7	93.3	100	26.7
Multiracial	N/A	88	91	88	91	91	92	73.3	80	86.7	93.3	100	26.7
Students with Disabilities	N/A	55	65	57	61	64	66	73.3	80	86.7	93.3	100	26.7
Students without Disabilities	N/A	89	92	89	92	94	95	73.3	80	86.7	93.3	100	26.7
Limited English Proficient	N/A	57	63	57	65	74	78	73.3	80	86.7	93.3	100	26.7
Economically Disadvantaged	N/A	78	83	78	82	85	88	73.3	80	86.7	93.3	100	26.7
Not Economically Disadvantaged	N/A	92	95	92	94	95	96	73.3	80	86.7	93.3	100	26.7
Migrant	N/A	64	69	58	68	73	82	73.3	80	86.7	93.3	100	26.7
English-Language Arts 8th grade													
All students	75	80	80	87	88	90	92	73.3	80	86.7	93.3	100	26.7
Male	68	75	74	83	85	86	89	73.3	80	86.7	93.3	100	26.7
Female	82	86	86	91	92	93	95	73.3	80	86.7	93.3	100	26.7
White	83	87	86	92	93	93	94	73.3	80	86.7	93.3	100	26.7
Black	66	74	73	82	84	86	89	73.3	80	86.7	93.3	100	26.7
Hispanic	55	63	63	74	79	83	88	73.3	80	86.7	93.3	100	26.7
Asian	85	89	89	93	94	96	96	73.3	80	86.7	93.3	100	26.7
Native American/Alaskan Indian	80	79	82	88	91	88	94	73.3	80	86.7	93.3	100	26.7
Multiracial	81	86	86	92	92	93	94	73.3	80	86.7	93.3	100	26.7
Students with Disabilities	31	39	41	55	57	59	65	73.3	80	86.7	93.3	100	26.7
Students without Disabilities	81	86	85	91	92	93	95	73.3	80	86.7	93.3	100	26.7
Limited English Proficient	37	42	40	52	55	64	72	73.3	80	86.7	93.3	100	26.7
Economically Disadvantaged	64	71	71	80	82	84	88	73.3	80	86.7	93.3	100	26.7
Not Economically Disadvantaged	84	89	88	93	95	95	96	73.3	80	86.7	93.3	100	26.7
Migrant	42	47	51	58	62	62	71	73.3	80	86.7	93.3	100	26.7
Math – CRCT 3rd grade													
All students		90	90	91	91	70	78	67.6	75.7	83.8	91.9	100	32.4
Male		88	89	91	89	70	77	67.6	75.7	83.8	91.9	100	32.4
Female		91	91	92	92	72	79	67.6	75.7	83.8	91.9	100	32.4
White		94	94	95	94	81	86	67.6	75.7	83.8	91.9	100	32.4
Black		84	83	87	85	58	67	67.6	75.7	83.8	91.9	100	32.4
Hispanic		83	85	87	88	67	75	67.6	75.7	83.8	91.9	100	32.4
Asian		96	97	97	97	91	92	67.6	75.7	83.8	91.9	100	32.4
Native American/Alaskan Indian		94	96	91	96	71	79	67.6	75.7	83.8	91.9	100	32.4
Multiracial		91	92	93	93	74	80	67.6	75.7	83.8	91.9	100	32.4
Students with Disabilities		72	74	78	74	47	52	67.6	75.7	83.8	91.9	100	32.4
Students without Disabilities		92	92	93	93	75	81	67.6	75.7	83.8	91.9	100	32.4
Limited English Proficient		74	78	82	84	62	72	67.6	75.7	83.8	91.9	100	32.4
Economically Disadvantaged		84	84	88	86	61	69	67.6	75.7	83.8	91.9	100	32.4
Not Economically Disadvantaged		95	95	96	95	84	89	67.6	75.7	83.8	91.9	100	32.4

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	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change**
Migrant		76	81	85	86	59	71	67.6	75.7	83.8	91.9	100	32.4

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	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change**
Math – CRCT 5th grade													
All students		84	87	88	88	85	87	67.6	75.7	83.8	91.9	100	32.4
Male		81	85	87	87	82	86	67.6	75.7	83.8	91.9	100	32.4
Female		86	89	90	90	86	89	67.6	75.7	83.8	91.9	100	32.4
White		90	92	94	94	90	92	67.6	75.7	83.8	91.9	100	32.4
Black		75	80	83	82	77	82	67.6	75.7	83.8	91.9	100	32.4
Hispanic		76	80	82	84	81	86	67.6	75.7	83.8	91.9	100	32.4
Asian		94	95	97	97	95	96	67.6	75.7	83.8	91.9	100	32.4
Native American/Alaskan Indian		84	90	89	90	86	90	67.6	75.7	83.8	91.9	100	32.4
Multiracial		87	90	91	90	86	89	67.6	75.7	83.8	91.9	100	32.4
Students with Disabilities		52	59	63	63	52	58	67.6	75.7	83.8	91.9	100	32.4
Students without Disabilities		87	90	93	92	89	91	67.6	75.7	83.8	91.9	100	32.4
Limited English Proficient		65	69	73	74	71	78	67.6	75.7	83.8	91.9	100	32.4
Economically Disadvantaged		76	81	83	83	78	83	67.6	75.7	83.8	91.9	100	32.4
Not Economically Disadvantaged		91	94	94	95	92	94	67.6	75.7	83.8	91.9	100	32.4
Migrant		69	74	73	77	71	83	67.6	75.7	83.8	91.9	100	32.4
Math – CRCT 8th grade													
All students	67	73	69	77	81	78	80	67.6	75.7	83.8	91.9	100	32.4
Male	64	70	66	76	79	75	78	67.6	75.7	83.8	91.9	100	32.4
Female	69	76	71	79	84	81	83	67.6	75.7	83.8	91.9	100	32.4
White	77	82	79	87	89	86	87	67.6	75.7	83.8	91.9	100	32.4
Black	52	61	56	67	73	70	71	67.6	75.7	83.8	91.9	100	32.4
Hispanic	54	62	57	68	76	72	75	67.6	75.7	83.8	91.9	100	32.4
Asian	89	92	90	93	96	94	95	67.6	75.7	83.8	91.9	100	32.4
Native American/Alaskan Indian	70	75	73	83	84	79	83	67.6	75.7	83.8	91.9	100	32.4
Multiracial	73	78	75	84	85	83	83	67.6	75.7	83.8	91.9	100	32.4
Students with Disabilities	23	29	28	40	46	41	44	67.6	75.7	83.8	91.9	100	32.4
Students without Disabilities	72	79	74	82	86	83	84	67.6	75.7	83.8	91.9	100	32.4
Limited English Proficient	44	48	42	51	58	58	62	67.6	75.7	83.8	91.9	100	32.4
Economically Disadvantaged	53	61	56	67	73	69	71	67.6	75.7	83.8	91.9	100	32.4
Not Economically Disadvantaged	77	83	80	87	90	88	89	67.6	75.7	83.8	91.9	100	32.4
Migrant	48	49	48	56	62	64	65	67.6	75.7	83.8	91.9	100	32.4

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Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change**
High School Graduation Rates													
All students	63	65	69	71	72	75	79	80	85	90	95	100	20.0
Male	59	62	66	67	69	72	76	80	85	90	95	100	20.0
Female	68	69	73	75	76	79	82	80	85	90	95	100	20.0
White	71	72	75	76	78	80	83	80	85	90	95	100	20.0
Black	53	57	62	64	66	69	74	80	85	90	95	100	20.0
Hispanic	49	50	55	56	60	66	71	80	85	90	95	100	20.0
Students with Disabilities	29	29	29	32	33	38	41	80	85	90	95	100	20.0
Students without Disabilities	67	70	74	75	77	80	83	80	85	90	95	100	20.0
Limited English Proficient	38	41	38	40	46	50	55	80	85	90	95	100	20.0
Economically Disadvantaged	52	56	60	62	63	67	73	80	85	90	95	100	20.0
Not Economically Disadvantaged	68	69	73	75	77	80	83	80	85	90	95	100	20.0
GHSGT - ELA													
All students	95	94	95	96	96	90	92	87.7	90.8	93.9	96.9	100	12.3
Male	94	92	94	95	95	89	90	87.7	90.8	93.9	96.9	100	12.3
Female	96	95	96	97	97	92	94	87.7	90.8	93.9	96.9	100	12.3
White	98	97	97	98	98	95	96	87.7	90.8	93.9	96.9	100	12.3
Black	92	90	92	93	94	86	88	87.7	90.8	93.9	96.9	100	12.3
Hispanic	84	83	86	90	92	83	88	87.7	90.8	93.9	96.9	100	12.3
Students with Disabilities	74	65	69	73	76	56	60	87.7	90.8	93.9	96.9	100	12.3
Students without Disabilities	96	96	97	98	98	93	95	87.7	90.8	93.9	96.9	100	12.3
Limited English Proficient	67	66	68	75	74	58	68	87.7	90.8	93.9	96.9	100	12.3
Economically Disadvantaged	90	88	90	92	93	84	87	87.7	90.8	93.9	96.9	100	12.3
Not Economically Disadvantaged	97	96	97	98	98	94	96	87.7	90.8	93.9	96.9	100	12.3
GHSGT - Math													
All students	91	92	92	92	92	93	95	74.9	81.2	87.4	93.7	100.0	25.1
Male	91	92	92	92	92	92	95	74.9	81.2	87.4	93.7	100.0	25.1
Female	91	93	92	92	92	93	95	74.9	81.2	87.4	93.7	100.0	25.1
White	96	96	96	96	96	97	98	74.9	81.2	87.4	93.7	100.0	25.1
Black	84	86	85	86	86	88	91	74.9	81.2	87.4	93.7	100.0	25.1
Hispanic	84	86	88	89	90	91	94	74.9	81.2	87.4	93.7	100.0	25.1
Students with Disabilities	60	56	57	57	57	59	66	74.9	81.2	87.4	93.7	100.0	25.1
Students without Disabilities	93	95	95	95	95	96	97	74.9	81.2	87.4	93.7	100.0	25.1
Limited English Proficient	74	79	79	79	80	82	88	74.9	81.2	87.4	93.7	100.0	25.1
Economically Disadvantaged	83	85	85	86	86	88	91	74.9	81.2	87.4	93.7	100.0	25.1
Not Economically Disadvantaged	94	95	95	95	96	96	97	74.9	81.2	87.4	93.7	100.0	25.1

APPENDIX A18: EVIDENCE TABLE 5 - STATE GOALS Without Race to The Top

Period during which transition from Quality Core Curriculum to Georgia Performance Standards occurred.
Georgia's AMOs from the 2009 AYP Workbook
All NAEP are average scores
N/A under NAEP means Test Not Given in that year

	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change**
GHSGT - Science													
All students	69	68	68	73	74	87	90	92	93	94	95	95	3.0
Male	73	72	72	76	77	88	91	92	93	94	95	95	3.0
Female	66	64	65	71	71	86	90	91	92	93	94	94	3.0
White	81	80	80	84	85	93	95	95	95	95	95	95	0.0
Black	50	50	50	56	60	78	84	86	87	88	90	90	4.0
Hispanic	47	46	51	59	64	80	85	87	88	89	90	90	3.0
Students with Disabilities	34	31	30	34	36	53	59	61	63	64	65	65	4.0
Students without Disabilities	71	71	71	76	78	90	93	94	95	95	95	95	1.0
Limited English Proficient	29	27	28	35	42	61	71	73	74	75	76	76	3.0
Economically Disadvantaged	49	49	50	57	60	78	84	86	87	88	90	90	4.0
Not Economically Disadvantaged	76	76	77	81	83	92	95	95	95	95	95	95	0.0

APPENDIX A19: EVIDENCE TABLE 6 - STATE GOALS with Race to The Top

Period during which transition from Quality Core Curriculum to Georgia Performance Standards occurred.

Performance Targets for 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 WITH Race to the Top

	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change (2013-14 vs. 2008-09)**
Reading													
CRCT 3rd grade	N/A	90	92	83	85	93	93	95	96	96	96	96	3.0
CRCT 5th grade	N/A	85	89	81	85	93	93	95	96	96	96	96	3.0
CRCT 8th grade	81	85	83	90	89	94	96	96	97	97	97	97	1.0
Math													
CRCT 3rd grade	N/A	89	89	91	90	71	78	80	82	84	85	86	8.0
CRCT 5th grade	N/A	83	87	89	88	84	87	88	89	90	91	92	5.0
CRCT 8th grade	67	73	69	77	81	78	80	81	82	83	84	85	5.0
Science													
CRCT 3rd grade	N/A	83	84	85	70	75	80	82	84	86	88	89	9.0
CRCT 5th grade	N/A	86	89	89	67	71	76	78	80	82	84	85	9.0
CRCT 8th grade	N/A	76	74	76	74	60	64	66	68	70	72	75	11.0
Language Arts													
CRCT 3rd grade	N/A	87	87	82	86	87	87	88	90	91	93	94	7.0
CRCT 5th grade	N/A	85	88	85	88	90	91	92	93	93	94	95	4.0
CRCT 8th grade	75	80	80	87	88	90	92	92	93	93	94	95	3.0
Reading – CRCT 3rd grade													
All students	N/A	90	92	83	85	93	93	95	96	96	96	96	3.0
Male	N/A	88	90	80	83	91	91	93	94	94	95	96	5.0
Female	N/A	93	94	85	88	94	95	95	95	95	95	96	1.0
White	N/A	94	96	91	92	96	97	97	97	97	97	97	0.0
Black	N/A	87	88	75	78	89	89	90	92	93	95	97	**8.0**
Hispanic	N/A	80	85	74	77	89	91	92	93	95	96	97	**6.0**
Asian	N/A	95	96	92	93	97	96	96	96	96	96	97	1.0
Native American/Alaskan Indian	N/A	93	99	86	91	93	95	95	95	95	96	97	2.0
Multiracial	N/A	93	95	86	89	94	94	95	95	95	96	97	3.0
Students with Disabilities	N/A	75	82	67	68	77	77	80	81	83	84	86	**9.0**
Students without Disabilities	N/A	93	94	85	87	95	95	95	95	95	95	95	0.0
Limited English Proficient	N/A	70	77	66	70	87	89	90	91	92	93	93	4.0
Economically Disadvantaged	N/A	86	88	75	78	89	90	91	92	93	94	95	5.0
Not Economically Disadvantaged	N/A	95	97	91	93	97	98	98	98	98	98	98	0.0
Migrant	N/A	73	83	72	72	87	89	90	91	91	92	92	3.0

APPENDIX A19: EVIDENCE TABLE 6 - STATE GOALS with Race to The Top

Period during which transition from Quality Core Curriculum to Georgia Performance Standards occurred.

Performance Targets for 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 WITH Race to the Top

	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change (2013-14 vs. 2008-09)**
Reading – CRCT 5th grade													
All students	N/A	85	89	81	86	93	94	95	96	96	96	96	2.0
Male	N/A	82	86	79	84	91	92	93	94	94	95	96	4.0
Female	N/A	89	91	83	88	95	95	95	95	95	96	96	1.0
White	N/A	91	94	90	92	96	96	96	96	96	96	96	0.0
Black	N/A	79	85	72	78	90	90	91	93	94	95	96	**6.0**
Hispanic	N/A	71	78	71	78	89	91	92	93	94	95	96	**5.0**
Asian	N/A	91	93	90	93	97	96	96	96	96	96	96	0.0
Native American/Alaskan Indian	N/A	87	89	87	90	92	98	98	98	98	98	98	0.0
Multiracial	N/A	89	91	85	90	95	95	95	95	95	96	96	1.0
Students with Disabilities	N/A	59	70	59	64	72	73	75	76	77	78	80	**7.0**
Students without Disabilities	N/A	89	92	84	89	96	96	96	96	96	96	96	0.0
Limited English Proficient	N/A	55	62	53	64	81	84	85	86	86	87	88	**4.0**
Economically Disadvantaged	N/A	77	84	73	79	89	90	91	92	93	94	95	**5.0**
Not Economically Disadvantaged	N/A	92	95	90	93	97	97	97	97	97	97	97	0.0
Migrant	N/A	60	70	57	66	76	86	86	86	87	88	89	**3.0**
Reading – CRCT 8th grade													
All students	81	85	83	90	89	94	96	96	97	97	97	97	1.0
Male	77	81	78	87	86	92	94	94	94	95	96	97	3.0
Female	85	89	87	92	91	95	97	97	97	97	97	97	0.0
White	88	91	89	95	94	97	98	98	98	98	98	98	0.0
Black	73	79	76	85	84	91	94	94	95	96	97	97	**3.0**
Hispanic	65	69	68	79	80	87	92	93	94	95	96	97	**5.0**
Asian	88	91	90	93	94	96	97	97	97	97	97	97	0.0
Native American/Alaskan Indian	82	84	87	93	92	99	96	96	96	96	96	97	1.0
Multiracial	87	89	89	93	92	96	97	97	97	97	97	97	0.0
Students with Disabilities	43	50	50	65	61	72	78	80	81	82	83	84	**6.0**
Students without Disabilities	86	89	87	93	92	96	97	97	97	97	97	97	0.0
Limited English Proficient	46	49	45	58	58	70	79	80	81	82	82	83	**4.0**
Economically Disadvantaged	71	76	74	84	83	90	93	94	95	96	97	97	**4.0**
Not Economically Disadvantaged	89	92	90	95	95	97	98	98	98	98	98	98	0.0
Migrant	51	54	53	67	67	68	81	82	83	84	84	85	**4.0**

APPENDIX A19: EVIDENCE TABLE 6 - STATE GOALS with Race to The Top

Period during which transition from Quality Core Curriculum to Georgia Performance Standards occurred.

Performance Targets for 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 WITH Race to the Top

	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change (2013-14 vs. 2008-09)**
Language Arts – CRCT 3rd grade													
All students	N/A	87	87	82	86	87	87	88	90	91	93	94	7.0
Male	N/A	84	84	78	82	84	83	84	85	87	89	91	8.0
Female	N/A	90	90	86	89	91	90	91	92	93	94	94	4.0
White	N/A	92	92	88	91	92	91	91	92	92	93	94	3.0
Black	N/A	82	82	76	80	82	81	83	85	87	89	91	**10.0**
Hispanic	N/A	77	77	72	79	83	84	85	87	88	90	91	7.0
Asian	N/A	94	94	93	94	96	95	95	95	95	95	95	0.0
Native American/Alaskan Indian	N/A	91	94	86	90	90	84	85	87	88	90	91	7.0
Multiracial	N/A	90	90	85	88	89	89	90	91	92	93	94	5.0
Students with Disabilities	N/A	67	68	60	65	67	64	66	67	69	71	74	**10.0**
Students without Disabilities	N/A	90	90	86	89	90	89	90	91	92	93	94	5.0
Limited English Proficient	N/A	65	66	62	72	79	81	82	84	85	87	89	8.0
Economically Disadvantaged	N/A	81	81	74	79	81	81	82	84	85	87	89	8.0
Not Economically Disadvantaged	N/A	93	93	90	93	94	92	93	94	94	94	94	2.0
Migrant	N/A	69	71	67	73	77	78	80	82	84	86	88	**10.0**
Language Arts – CRCT 5th grade													
All students	N/A	85	88	85	88	90	91	92	93	93	94	95	4.0
Male	N/A	81	85	81	84	87	88	89	91	92	94	95	**7.0**
Female	N/A	89	92	89	91	93	94	94	94	94	95	95	1.0
White	N/A	90	93	91	92	93	94	94	94	94	95	95	1.0
Black	N/A	80	84	79	83	86	88	89	91	92	94	95	**7.0**
Hispanic	N/A	73	78	74	80	85	89	90	91	92	93	94	5.0
Asian	N/A	92	94	93	94	96	96	96	96	96	96	96	0.0
Native American/Alaskan Indian	N/A	86	90	88	92	88	95	95	95	95	95	95	0.0
Multiracial	N/A	88	91	88	91	91	92	92	93	94	95	95	3.0
Students with Disabilities	N/A	55	65	57	61	64	66	68	70	72	73	75	**9.0**
Students without Disabilities	N/A	89	92	89	92	94	95	95	95	95	95	95	0.0
Limited English Proficient	N/A	57	63	57	65	74	78	80	82	84	85	86	**8.0**
Economically Disadvantaged	N/A	78	83	78	82	85	88	89	91	92	94	95	**7.0**
Not Economically Disadvantaged	N/A	92	95	92	94	95	96	96	96	96	96	96	0.0
Migrant	N/A	64	69	58	68	73	82	83	85	87	88	89	7.0

APPENDIX A19: EVIDENCE TABLE 6 - STATE GOALS with Race to The Top

Period during which transition from Quality Core Curriculum to Georgia Performance Standards occurred.

Performance Targets for 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 WITH Race to the Top

	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change (2013-14 vs. 2008-09)**
Language Arts – CRCT 8th grade													
All students	75	80	80	87	88	90	92	92	93	93	94	95	3.0
Male	68	75	74	83	85	86	89	90	91	92	93	95	6.0
Female	82	86	86	91	92	93	95	95	95	95	95	95	0.0
White	83	87	86	92	93	93	94	94	95	95	95	95	1.0
Black	66	74	73	82	84	86	89	90	91	92	93	95	**6.0**
Hispanic	55	63	63	74	79	83	88	89	90	91	92	93	5.0
Asian	85	89	89	93	94	96	96	96	96	96	96	96	0.0
Native American/Alaskan Indian	80	79	82	88	91	88	94	94	95	95	95	95	1.0
Multiracial	81	86	86	92	92	93	94	94	95	95	95	95	1.0
Students with Disabilities	31	39	41	55	57	59	65	67	69	71	73	75	**10.0**
Students without Disabilities	81	86	85	91	92	93	95	95	95	95	95	95	0.0
Limited English Proficient	37	42	40	52	55	64	72	74	76	78	80	81	**9.0**
Economically Disadvantaged	64	71	71	80	82	84	88	89	90	91	92	93	5.0
Not Economically Disadvantaged	84	89	88	93	95	95	96	96	96	96	96	96	0.0
Migrant	42	47	51	58	62	62	71	73	75	77	79	80	**9.0**
Math – CRCT 3rd grade													
All students		90	90	91	91	70	78	80	82	84	85	86	8.0
Male		88	89	91	89	70	77	78	80	82	84	85	8.0
Female		91	91	92	92	72	79	81	82	84	86	87	8.0
White		94	94	95	94	81	86	87	88	89	90	91	5.0
Black		84	83	87	85	58	67	69	71	73	74	75	**8.0**
Hispanic		83	85	87	88	67	75	77	78	80	82	84	**9.0**
Asian		96	97	97	97	91	92	93	93	93	93	94	2.0
Native American/Alaskan Indian		94	96	91	96	71	79	81	82	83	84	85	6.0
Multiracial		91	92	93	93	74	80	82	83	84	85	86	6.0
Students with Disabilities		72	74	78	74	47	52	54	56	58	60	62	**10.0**
Students without Disabilities		92	92	93	93	75	81	83	84	85	86	87	6.0
Limited English Proficient		74	78	82	84	62	72	74	76	77	79	80	8.0
Economically Disadvantaged		84	84	88	86	61	69	71	72	74	76	78	**9.0**
Not Economically Disadvantaged		95	95	96	95	84	89	91	92	93	94	95	6.0
Migrant		76	81	85	86	59	71	73	75	77	78	79	**8.0**

APPENDIX A19: EVIDENCE TABLE 6 - STATE GOALS with Race to The Top

Period during which transition from Quality Core Curriculum to Georgia Performance Standards occurred.

Performance Targets for 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 WITH Race to the Top

	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change (2013-14 vs. 2008-09)**
Math – CRCT 5th grade													
All students		84	87	88	88	85	87	88	89	90	91	92	5.0
Male		81	85	87	87	82	86	87	88	89	90	91	5.0
Female		86	89	90	90	86	89	90	91	92	93	94	5.0
White		90	92	94	94	90	92	93	94	95	95	95	3.0
Black		75	80	83	82	77	82	84	85	87	88	89	**7.0**
Hispanic		76	80	82	84	81	86	88	89	90	91	92	**6.0**
Asian		94	95	97	97	95	96	96	96	96	96	96	0.0
Native American/Alaskan Indian		84	90	89	90	86	90	91	92	93	94	95	5.0
Multiracial		87	90	91	90	86	89	90	91	92	93	94	5.0
Students with Disabilities		52	59	63	63	52	58	60	62	63	65	67	**9.0**
Students without Disabilities		87	90	93	92	89	91	92	93	94	95	95	4.0
Limited English Proficient		65	69	73	74	71	78	80	81	82	84	85	**7.0**
Economically Disadvantaged		76	81	83	83	78	83	84	85	86	88	89	**6.0**
Not Economically Disadvantaged		91	94	94	95	92	94	95	95	95	95	95	1.0
Migrant		69	74	73	77	71	83	85	86	87	88	89	**6.0**
Math – CRCT 8th grade													
All students	67	73	69	77	81	78	80	81	82	83	84	85	4.0
Male	64	70	66	76	79	75	78	79	80	81	82	84	6.0
Female	69	76	71	79	84	81	83	85	86	87	88	89	6.0
White	77	82	79	87	89	86	87	89	90	91	92	93	6.0
Black	52	61	56	67	73	70	71	73	74	75	77	79	**8.0**
Hispanic	54	62	57	68	76	72	75	77	78	79	81	83	**8.0**
Asian	89	92	90	93	96	94	95	95	95	95	95	95	0.0
Native American/Alaskan Indian	70	75	73	83	84	79	83	85	86	87	88	89	6.0
Multiracial	73	78	75	84	85	83	83	85	86	87	88	89	6.0
Students with Disabilities	23	29	28	40	46	41	44	46	48	50	52	54	**10.0**
Students without Disabilities	72	79	74	82	86	83	84	86	87	88	89	90	6.0
Limited English Proficient	44	48	42	51	58	58	62	64	65	67	69	71	**9.0**
Economically Disadvantaged	53	61	56	67	73	69	71	73	74	76	78	79	**8.0**
Not Economically Disadvantaged	77	83	80	87	90	88	89	91	92	93	94	95	6.0
Migrant	48	49	48	56	62	64	65	67	68	70	72	73	**8.0**

APPENDIX A19: EVIDENCE TABLE 6 - STATE GOALS with Race to The Top

Period during which transition from Quality Core Curriculum to Georgia Performance Standards occurred.

Performance Targets for 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 WITH Race to the Top

	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change (2013-14 vs. 2008-09)**
High School Graduation Rates													
All students	63	65	69	71	72	75	79	80	82	83	84	85	6.1
Male	59	62	66	67	69	72	76	77	79	80	82	83	7.5
Female	68	69	73	75	76	79	82	83	85	86	87	88	5.7
White	71	72	75	76	78	80	83	84	86	87	88	89	6.3
Black	53	57	62	64	66	69	74	75	77	78	80	82	**7.9**
Hispanic	49	50	55	56	60	66	71	72	74	75	77	79	**8.0**
Students with Disabilities	29	29	29	32	33	38	41	42	44	46	48	50	**8.6**
Students without Disabilities	67	70	74	75	77	80	83	84	86	87	88	89	6.0
Limited English Proficient	38	41	38	40	46	50	55	56	58	60	62	64	**9.0**
Economically Disadvantaged	52	56	60	62	63	67	73	74	76	77	79	81	**8.1**
Not Economically Disadvantaged	68	69	73	75	77	80	83	84	86	87	88	89	6.2
GHSGT - ELA													
All students	95	94	95	96	96	90	92	93	94	95	95	95	3.0
Male	94	92	94	95	95	89	90	91	92	93	94	94	4.0
Female	96	95	96	97	97	92	94	95	95	95	95	95	1.0
White	98	97	97	98	98	95	96	98	98	98	98	98	2.0
Black	92	90	92	93	94	86	88	90	91	92	93	93	5.0
Hispanic	84	83	86	90	92	83	88	90	91	92	93	93	5.0
Students with Disabilities	74	65	69	73	76	56	60	62	63	64	66	68	8.0
Students without Disabilities	96	96	97	98	98	93	95	95	95	95	96	96	1.0
Limited English Proficient	67	66	68	75	74	58	68	70	71	72	74	76	8.0
Economically Disadvantaged	90	88	90	92	93	84	87	89	90	91	92	93	6.0
Not Economically Disadvantaged	97	96	97	98	98	94	96	96	96	96	96	96	0.0
GHSGT - Math													
All students	91	92	92	92	92	93	95	95	TBD	TBD	TBD	TBD	
Male	91	92	92	92	92	92	95	95	TBD	TBD	TBD	TBD	
Female	91	93	92	92	92	93	95	95	TBD	TBD	TBD	TBD	
White	96	96	96	96	96	97	98	98	TBD	TBD	TBD	TBD	
Black	84	86	85	86	86	88	91	92	TBD	TBD	TBD	TBD	
Hispanic	84	86	88	89	90	91	94	94	TBD	TBD	TBD	TBD	
Students with Disabilities	60	56	57	57	57	59	66	67	TBD	TBD	TBD	TBD	
Students without Disabilities	93	95	95	95	95	96	97	97	TBD	TBD	TBD	TBD	
Limited English Proficient	74	79	79	79	80	82	88	89	TBD	TBD	TBD	TBD	
Economically Disadvantaged	83	85	85	86	86	88	91	92	TBD	TBD	TBD	TBD	
Not Economically Disadvantaged	94	95	95	95	96	96	97	97	TBD	TBD	TBD	TBD	

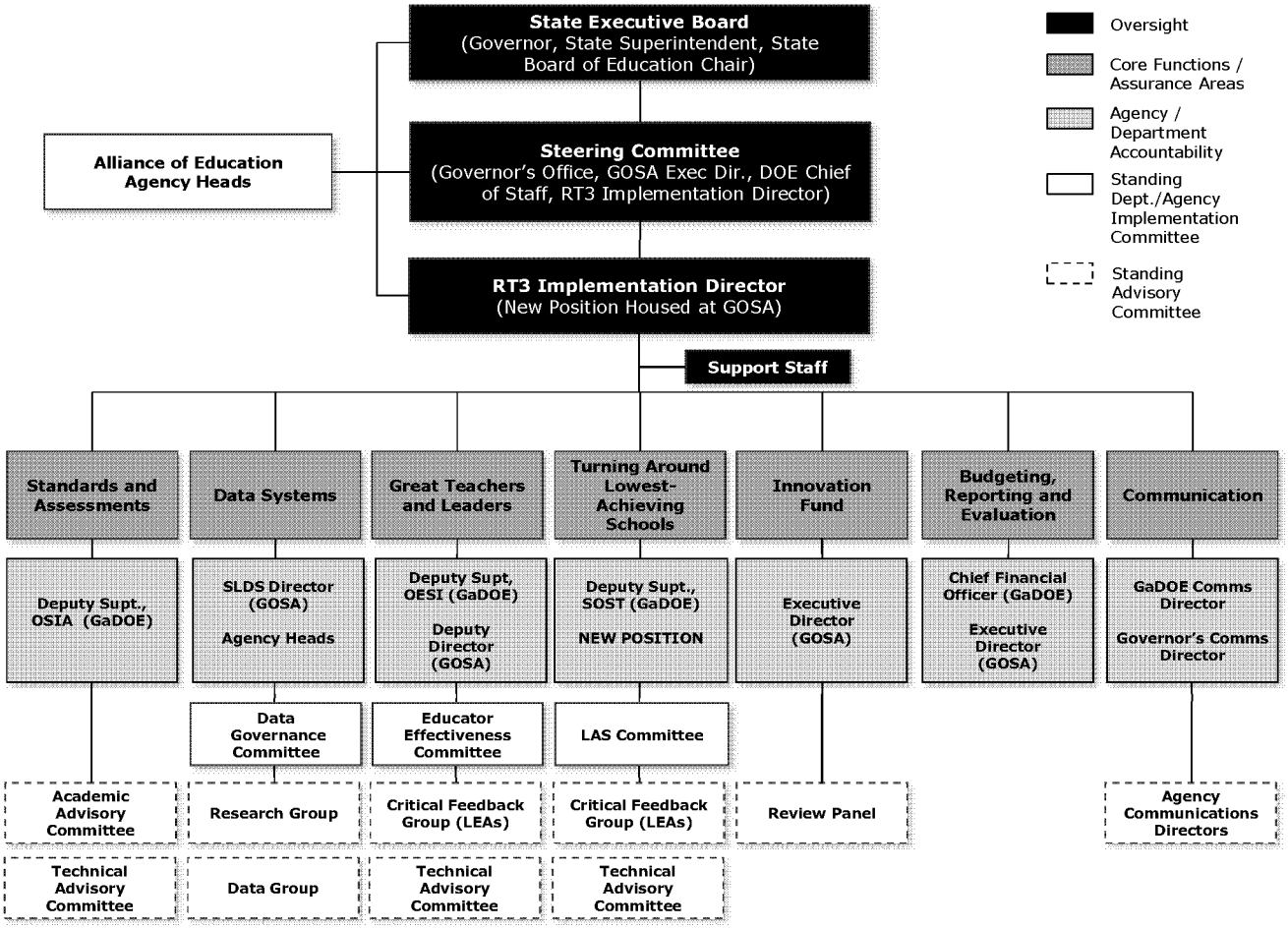
APPENDIX A19: EVIDENCE TABLE 6 - STATE GOALS with Race to The Top

Period during which transition from Quality Core Curriculum to Georgia Performance Standards occurred.

Performance Targets for 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 WITH Race to the Top

	HISTORIC PERFORMANCE							TARGETS					
Test Type	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**	**2006-2007**	**2007-2008**	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**	**2012-2013**	**2013-2014**	**Change (2013-14 vs. 2008-09)**
GHSGT - Science													
All students	69	68	68	73	74	87	90	92	93	94	95	95	5.0
Male	73	72	72	76	77	88	91	92	93	94	95	95	4.0
Female	66	64	65	71	71	86	90	91	92	93	94	95	5.0
White	81	80	80	84	85	93	95	95	95	95	95	95	0.0
Black	50	50	50	56	60	78	84	86	87	88	90	91	7.0
Hispanic	47	46	51	59	64	80	85	87	88	89	91	92	7.0
Students with Disabilities	34	31	30	34	36	53	59	61	63	64	66	68	9.0
Students without Disabilities	71	71	71	76	78	90	93	94	95	95	95	95	2.0
Limited English Proficient	29	27	28	35	42	61	71	73	74	76	78	80	9.0
Economically Disadvantaged	49	49	50	57	60	78	84	86	87	88	90	91	7.0
Not Economically Disadvantaged	76	76	77	81	83	92	95	95	95	95	95	95	0.0

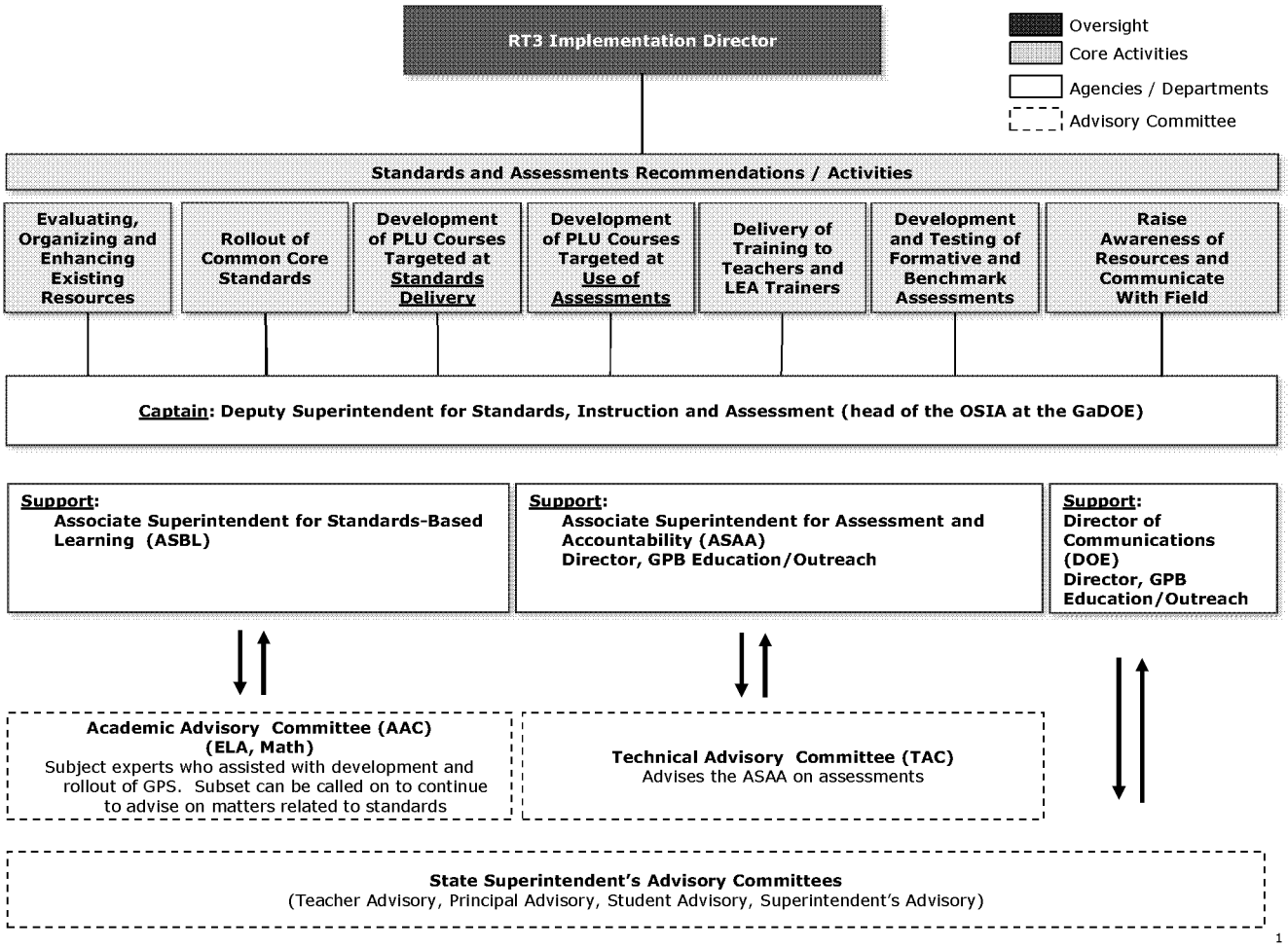
Appendix A20: Overall Implementation Framework



Appendix A21: Agency Names and Acronyms by Reform Area

Area	Agency Name or Position Title	Agency Acronym or Abbreviated Title
1. State Education Agencies	Bright from the Start: Department of Early Care & Learning (Pre-K)	DECAL
	Department of Education	GaDOE
	Georgia Student Finance Commission	GSFC
	Governor's Office of Student Achievement	GOSA
	Georgia Professional Standards Commission	PSC
	Technical College System of Georgia	TCSG
	University System of Georgia	USG
2. Other Education-related Entities / Structures	Alliance of Education Agency Heads	Alliance
	Georgia Afterschool Investment Council	GAIC
	Georgia Virtual School	GAVS
	Georgia Public Broadcasting	GPB
	Joint Education Boards Liaison Committee	JEBLC
	Regional Educational Service Agency	RESA
	State Board of Education	SBOE
3. Race to the Top Oversight	State Executive Board	SEB
	Steering Committee	SC
	Race to the Top Implementation Director	RT3 Director
4. Standards & Assessments Implementation	Office of Standards, Instruction and Assessments	OSIA
	Deputy Superintendent for Standards, Instruction and Assessment	DSSIA
	Associate Superintendent for Assessment and Accountability	ASAA
	Associate Superintendent for Standards-Based Learning	ASSBL
	Program Managers	PMs
	Academic Advisory Committee	AAC
	Technical Advisory Committee	TAC
5. Data Systems	Data Governance Committee	DGC
	Data Management Committee	DMC
	Information Technology Group	ITG
	Research Group	RG
	Statewide Longitudinal Data System Director	SLDS Director
6. Great Teachers and Leaders	Critical Feedback Group	CFG
	Educator Effectiveness Committee	EEC
	Office of Education Support and Improvement (within GaDOE)	OESI
	Technical Advisory Committee	TAC
	Value-Added Model Vendor	VAMV
7. Turning Around Lowest-Achieving Schools	Deputy Superintendent for School Turnaround	DSST
	Education Management Organization	EMO
	Finance and Business Operations (within GaDOE)	FBO
	Governor's Office of Planning and Budget	OPB
	Lowest-Achieving School Committee	LASC
	State Office of School Turnaround	SOST
	Teach for America	TFA
	Technical Assistance Firm	TAF
	The New Teacher Project	TNTP
	Vendor Selection Committee	VSC

Appendix A22: Oversight Structure for Standards and Assessments



Appendix A23: Data Governance MOU

Agreement between the Board of Regents of the University System of Georgia, the Governor's Office of Student Achievement, the Georgia Department of Education, the State Board of Technical and Adult Education, the Georgia Professional Standards Commission, the Georgia Student Finance Commission, and the Georgia Department of Early Care and Learning

WHEREAS, the Board of Regents of the University System of Georgia, the Governor's Office of Student Achievement, the Georgia Department of Education, the State Board of Technical and Adult Education, the Georgia Professional Standards Commission, the Georgia Student Finance Commission, and the Georgia Department of Early Care and Learning, individually or collectively known as the "Party" or "Parties," are committed to provide students and citizens of Georgia a nationally-renowned opportunity for education,

WHEREAS, the Parties are committed to provide students and citizens of Georgia seamless education from pre-kindergarten through postsecondary studies.

WHEREAS, each Party collects and maintains educational data relating to various aspects of Georgia's educational system;

WHEREAS, the Parties shall be required to share information as a part of the United States Department of Education's "Race to the Top;"

WHEREAS, the Parties shall develop a uniform, longitudinal data system to benefit the students and citizens of Georgia by 2011.

WHEREAS, this agreement governs the sharing of data by the Parties and shall safeguard the confidentiality of the student data as required by the Federal Family Educational Rights and Privacy Act (FERPA) and other applicable laws and regulations. The sharing of information for the purposes of this agreement is pursuant to 20 U.S.C. § 1232g, and 34 C.F.R. Part 99; however, some Parties may have access to personally identifiable education records in connection with an audit or evaluation of federal or state supported education programs under 34 C.F.R. 99.31(a)(3)(iv) and 34 C.F.R. 99.35, as school officials with legitimate educational interests under 34 C.F.R. 99.31(a)(1), or other applicable provision of FERPA or its implementing regulations; and

NOW, THEREFORE, in consideration of the mutual promises exchanged herein, the Parties hereby agree as follows:

1. Wherever used in this agreement, unless specifically stated otherwise, the following terms will have the respective meanings as ascribed as follows:

    a. "**Confidential Information**" means information shared under this agreement that is personally identifiable student information derived from education records as determined under the Family Educational Rights and Privacy Act ("**FERPA**"), or any information or data that a Party is required not to disclose by any federal or state law or contract. All Confidential Information shared by the Parties under this agreement will be safeguarded by the parties pursuant to paragraph four (4) of this agreement and will be used only to further the Purposes of this agreement. Confidential Information does not include information that is generally available in the public domain, information that is developed, received, maintained, or disclosed for purposes other than those in this agreement, or information that is required to be released by a Party to comply with a law, contract, or court order.

b. "**Purposes**" means the specific purposes of this agreement as described in paragraph two (2) of this agreement.

c. "**Data Governance Board**" means the group of Party representatives as described in paragraph three (3) of this agreement.

d. "**Third Party(ies)**" means any person, group, corporation, or entity that is not a Party to this agreement.

2. The Parties understand that the Purposes of this agreement are to allow Parties to share, among themselves, education data those parties collect in order to:

a. track students over time, from preschool through postsecondary education;
b. enable the increased use of instructional improvement systems;
c. make the creation of cross-agency state reports more efficient;
d. provide longitudinal and cross-agency data for research purposes.

3. To further the Purposes of this agreement, the Parties will appoint a Data Governance Board to promote collaboration between the Parties and ensure that all reports, products, articles, and exchanges of information produced under this agreement comply with law. Each Party will appoint at least one individual (generally each agency's Chief of Staff) to serve as its representative on the Data Governance Board. The Data Governance Board will hold regular meetings, in-person or through other means, each month or as otherwise mutually agreed upon by the Parties. The Data Governance Board will discuss process matters as well as identify issues that may need to be addressed by the Parties to further the Purposes of this agreement, including the release of Confidential Information to Third Parties.

4. The Parties understand that federal and state laws and regulations that govern access to and use of the data and Confidential Information that are relevant to this agreement require strict adherence, and the Parties must ensure that all actions under this agreement are in accordance with such laws. Accordingly, the parties specifically acknowledge that:

a. Prior to any sharing of Confidential Information between the Parties or to Third Parties, the Data Governance Board will determine that the anticipated sharing of Confidential Information is permissible under FERPA or any other applicable law. The Data Governance Board may not compel a Party to share Confidential Information under this agreement if the Party determines that the disclosure of Confidential Information would violate any federal or state law or court order. In the event that a Party makes such a determination and another Party disputes that determination, the Parties shall request an informal opinion from the Attorney General as to whether disclosure of the Confidential Information would violate applicable law or court order. The informal opinion of the Attorney General shall be binding on the Parties as to that issue.

b. Any party that shares Confidential Information under this agreement will retain all property rights associated with such information in all instances when such information is not used under the terms of this agreement.

c. Each Party may only disclose or use Confidential Information acquired from other Parties for the Purposes of this agreement.

d. Each Party shall maintain the confidentiality of all Confidential Information received from any other Party. The recipient of Confidential Information shall not directly or indirectly use or disclose such Confidential Information unless specifically permitted to do so pursuant to the terms of the agreement. The obligation of confidentiality under this agreement shall continue for the duration of the agreement except that the duty to protect the confidentiality of student personally identifiable information shall extend in perpetuity.

e. The Parties will adhere to generally acceptable policies on information security, access and employee controls in the handling and exchange of personally identifiable confidential information. Such policies will adhere to generally-accepted best practice standards related to information security. Parties will have a comprehensive control framework based upon generally accepted best practices.

f. The Parties will limit access to Confidential Information to those employees or contractors required to create, develop, exchange, maintain, analyze, and evaluate information or data for the Purposes of this agreement. The Parties shall ensure that each such person is fully cognizant of the restrictions placed upon the use and disclosure of the Confidential Information.

g. When the Confidential Information that is exchanged between the Parties is no longer needed to support the Purposes of this agreement, the Party or Parties that received the Confidential Information shall destroy the Confidential Information and notify the Parties of its destruction.

h. Each printed copy of Confidential Information exchanged by the Parties shall be stored in a secure location, such as a locked desk or file cabinet, except when in use for the purposes for which it was provided.

i. Electronic records containing Confidential Information exchanged by the Parties shall be stored in secured computer facilities with strict automated data protection controls, protecting access to individually-identifiable data to those with access authorization.

j. Each party will continue to manage its respective preexisting records and Confidential Information in conformance with its practices and applicable statutes regarding nondisclosure, privacy, and confidentiality.

5. The Parties understand the each Party is subject to Georgia law allowing personal inspection of public records, O.C.G.A. § 50-18-70 et. seq., sometimes known as the Georgia Open Records Act. Each party shall respond to requests to inspect public records as it would in its ordinary course of business. To the extent a request to inspect public records would include data or information shared or produced under this agreement, the Party shall take reasonable steps to notify the other Parties of its obligations to permit inspection of the records prior to disclosure. The Parties will not permit the public inspection of personally identifiable information protected by FERPA that it received from another Party under this agreement except as required by a subpoena or court order. The Parties will not permit any inspection of records received under this agreement that are exempt from public inspection.

6. As determined by the Parties, the Parties may produce public reports, products, articles, publications, or other materials, hereinafter referred to as "Public Reports," to further the Purposes of this Agreement. All Data included in Public Reports shall be included in the aggregate, so as not to identify or enable the identification of Confidential Information.

7. None of the Parties will use the other Parties' name or marks in any publication or public statement without prior written approval of the applicable Party.

8. Each Party will retain all rights in all its information, materials and intellectual property, including information that is not Confidential Information, general skills, internal processes and trade secrets other than Public Reports, that are developed by or on behalf of each Party prior to or during the term of this agreement.

9. The Parties to this agreement understand that each Party is a "data collector" within the meaning of O.C.G.A. § 10-1-911(2). Accordingly, each Party acknowledges its notification and other obligations under O.C.G.A. § 10-1-910 et. seq. in the event of a breach of the security of its system that compromises the security, confidentiality or integrity of personal information as defined by law. In addition, in the event Confidential Information is disclosed or otherwise released in an unauthorized manner, the party that disclosed or released the information shall immediately notify the other parties to this agreement in accordance with paragraph eleven (11).

10. If a dispute among the Parties arises out of this agreement, those Parties agree to first try in good faith to settle the dispute among them. If the Parties involved cannot reach an agreement on an issues within fifteen (15) business days, the Parties may, at their option, engage the Data Governance Board to resolve the dispute by providing written notice, and the Data Governance Board will provide a recommended course of action to resolve the dispute within thirty (30) business days. If the dispute can still not be resolved, or if the Parties cannot agree to engage the Data Governance Board, the Parties agree to mediation before resorting to arbitration, litigation or another dispute resolution procedure.

11. Legal notices under this agreement, including, but not limited to, notices of termination, notices of non-compliance, shall be made delivered by certified mail, return receipt requested, or in person with proof of delivery to the executive officer of each Party.

12. In the event that a Party is unable to fulfill the terms of the agreement due to circumstances beyond its control, then the Party shall be released from its obligations under this agreement (other than its obligation to maintain the confidentiality of Confidential Information) upon Party's notice of the conditions causing such inability to perform being given to the other Parties pursuant to paragraph 11. Regardless of any release, however, each Party's duty to maintain the confidentiality of Confidential Information as described in this agreement shall extend in perpetuity.

13. This agreement shall take effect upon completion of signatures and remain in effect for a term of five (5) years from the date of the latest signature. By unanimous agreement, the Parties by may renew this agreement under these terms at the conclusion of the term of the agreement.

14. This agreement may be amended at any time by written mutual agreement of the parties.

15. This agreement shall be governed by, construed, and applied in accordance with the laws of the State of Georgia.

16. This agreement may be executed in counterparts which, when taken together, will constitute one agreement. Copies of this agreement will be equally binding as originals and faxed or scanned and emailed counterpart signatures will be sufficient to evidence execution.

17. The Parties have shown their acceptance of the terms of the agreement by signing below.

GEORGIA DEPARTMENT OF EDUCATION

By: Kathy Cox

Name: KATHY COX

Date: January 12, 2010

UNIVERSITY SYSTEM OF GEORGIA

By:

Name: ERROLL DAVIS

Date: January 12, 2010

GEORGIA STUDENT FINANCE COMMISSION

By:

Name: TIM CONNELL

Date: January 12, 2010

GEORGIA PROFESSIONAL STANDARDS COMMISSION

By:

Name: KELLY HENSON

Date: January 12, 2010

(SIGNATURES CONTINUED ON NEXT PAGE)

TECHNICAL COLLEGE SYSTEM OF GEORGIA

By: _____

Name: RON JACKSON

Date: January 12, 2010

GOVERNOR'S OFFICE OF STUDENT ACHIEVEMENT

By: _____

Name: Kathleen MATHERS

Date: January 12, 2010

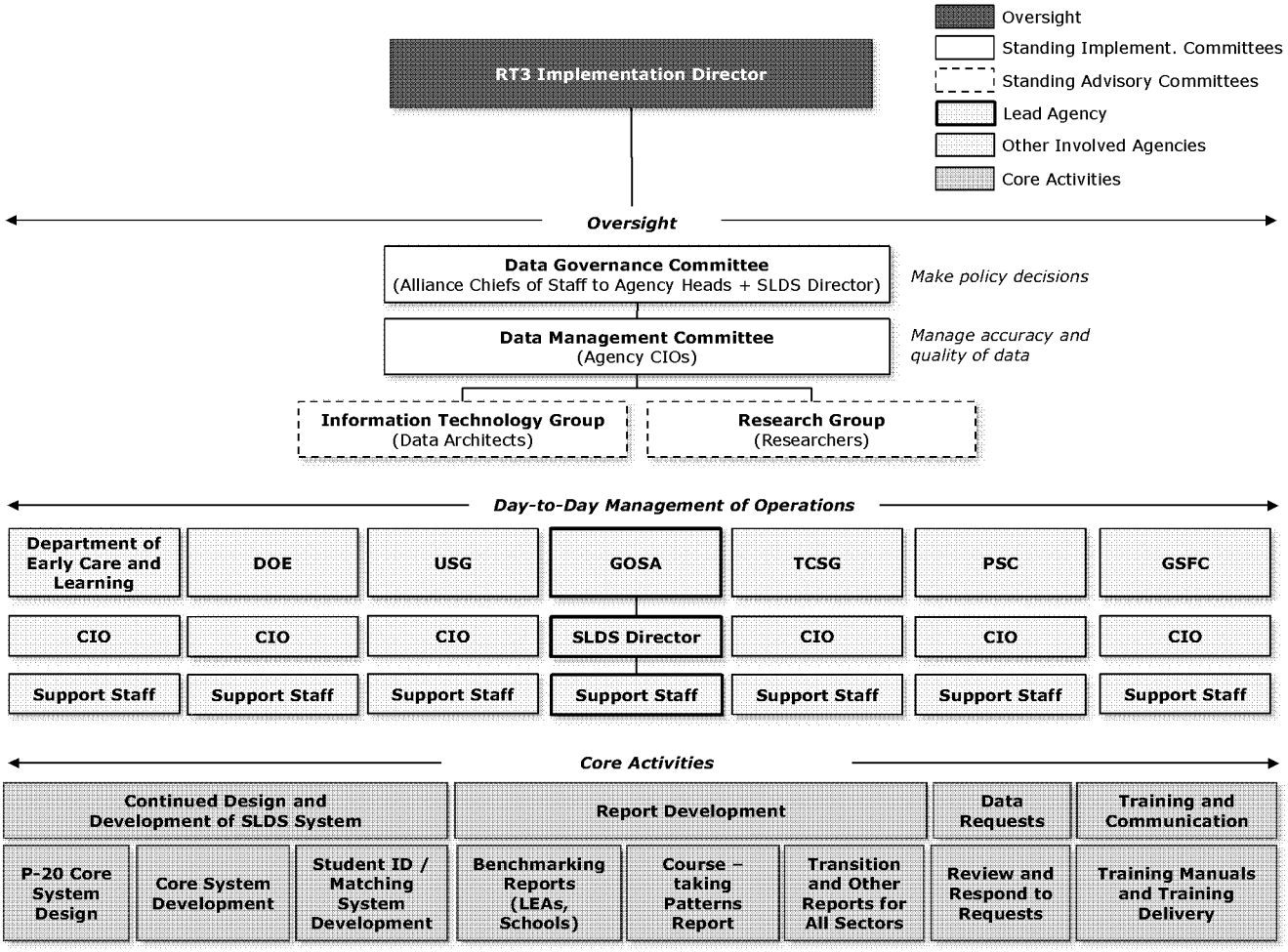
DEPARTMENT OF EARLY CARE AND LEARNING

By: _____

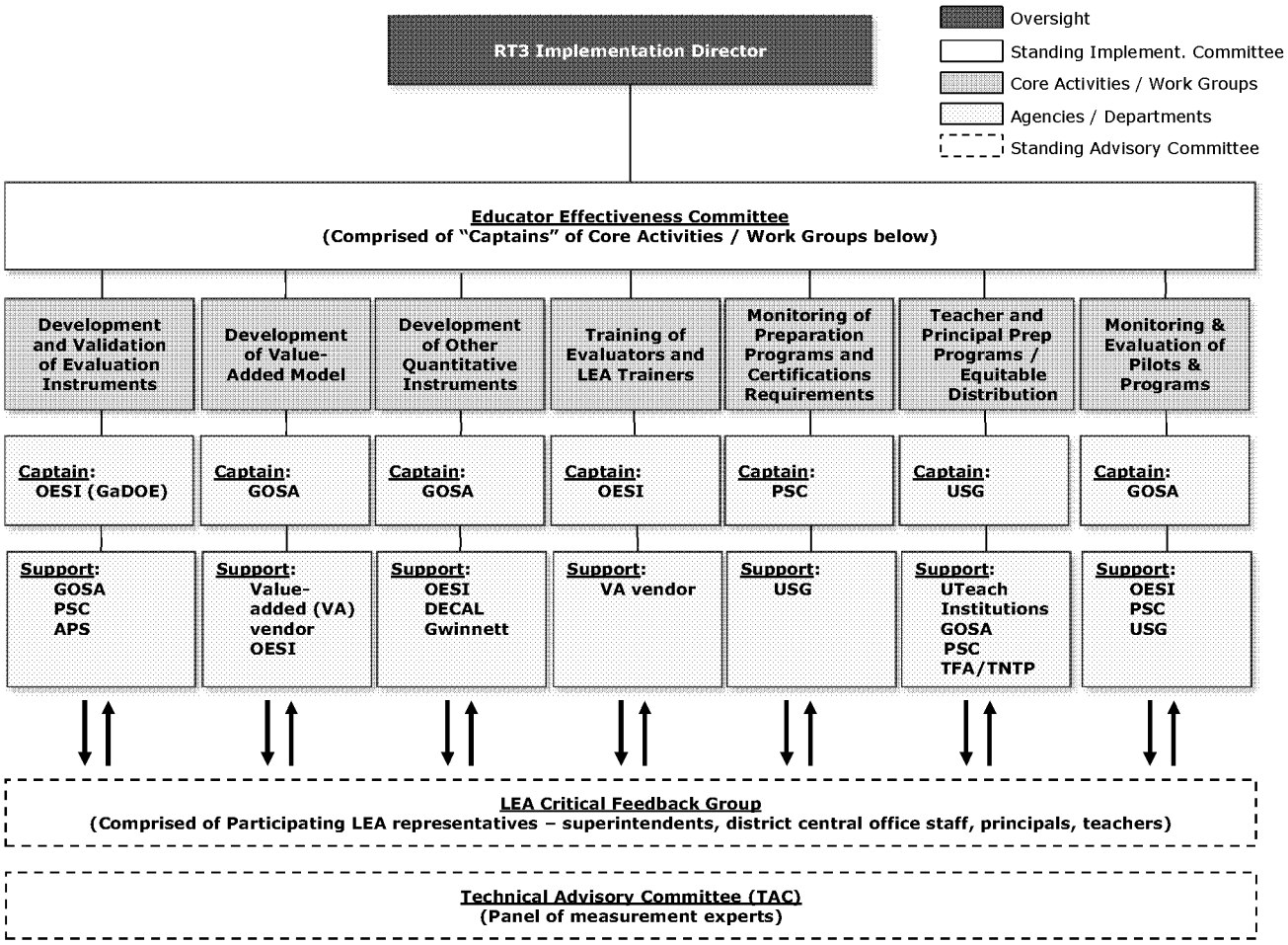
Name: HOLLY ROBINSON

Date: Jan. 12, 2010

Appendix A24: Oversight Structure for Data Systems



Appendix A25: Oversight Structure for Educator Effectiveness



Appendix A26: Letter from State Superintendent to Secretary Duncan

GEORGIA DEPARTMENT OF EDUCATION

Office of the State Superintendent of Schools

Kathy Cox, State Superintendent of Schools

January 13, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

We appreciate the opportunity to participate in the Race to the Top grant application, as it has truly sharpened our perspective on what we need to do in Georgia to turn around our persistently lowest-achieving schools. Within the last few months, Georgia's leadership has given a significant amount of thought to how to best serve the persistently-lowest achieving schools in our state. We recognize that turning around these schools is a fundamentally different task than incremental school improvement, as it requires dramatically different approaches and some tough decisions in the near future. With this in mind, we have decided to completely revamp our approach to how we manage school turnaround issues at the State level.

We will separate out the function of school turnaround from the rest of our school improvement division within the Georgia Department of Education (GaDOE) in order to dramatically increase the visibility of this issue statewide and to create strong accountability for turnaround at the State level. We will create a new position titled Deputy State Superintendent for School Turnaround. The Deputy will be accountable for all the school turnaround goals we have set in our Race to the Top application and will report directly to me. The Division of State Directed Schools (all schools at Needs Improvement levels 5 or higher), which includes 45 State Directors who work one-on-one with each of the NI-5 or higher schools, will report to the Deputy for School Turnaround in the new organizational structure. The Deputy Superintendent for Education Support and Improvement will continue to be responsible for increasing teacher and leader effectiveness, and for school improvement in all schools other than NI-5 and higher schools. We view the two positions as very complementary to each other.

The Deputy Superintendent for School Turnaround is a critical new position within the GaDOE, but this is not just a GaDOE hire. The Deputy will collaborate with all other deputies within GaDOE and will be a critical member of the State Superintendent's Executive Cabinet, but will also work very closely with all Alliance of Education Agency Heads, the Race to the Top Implementation Director, and a number of critical external partners (including Teach for America, The New Teacher Project, and any EMO and CMO organizations we select as part of our turnaround effort).

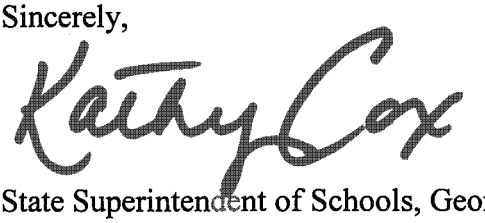
In recognition of the "cross-cutting" role that the Deputy will play and the high visibility and high statewide impact of the position, we will follow a new interagency hiring process to fill this position. We are prepared to launch a national search for the position immediately, and will form a cross-agency Search Committee responsible for identifying, interviewing, and selecting the top candidates for this position. The Search Committee will make recommendations on finalists to the State Superintendent and to the Governor, who will then jointly agree on the hire.

In the next few months, we will be undertaking intensive diagnostics of the districts that have chosen to participate in the Race to the Top application by signing Memoranda of Understanding with the State of Georgia. A team comprised of GaDOE experts, several agency heads and field leaders (superintendents) will conduct these diagnostics and make recommendations on turnaround models for each persistently lowest-achieving school. While there may exist a perception today that State DOEs are not moving aggressively enough to turn around the persistently lowest-achieving schools, I assure you that I am fully prepared, along with the new Deputy Superintendent for School Turnaround, to make any hard decisions that are needed to turn around our persistently lowest-achieving schools.

Ultimately, this is about what is best for our students, and I will do everything in my power to ensure that all students in Georgia have equal opportunity and equal access to a high-quality education, and are not disadvantaged in life simply because of where they live and what school they are zoned to attend.

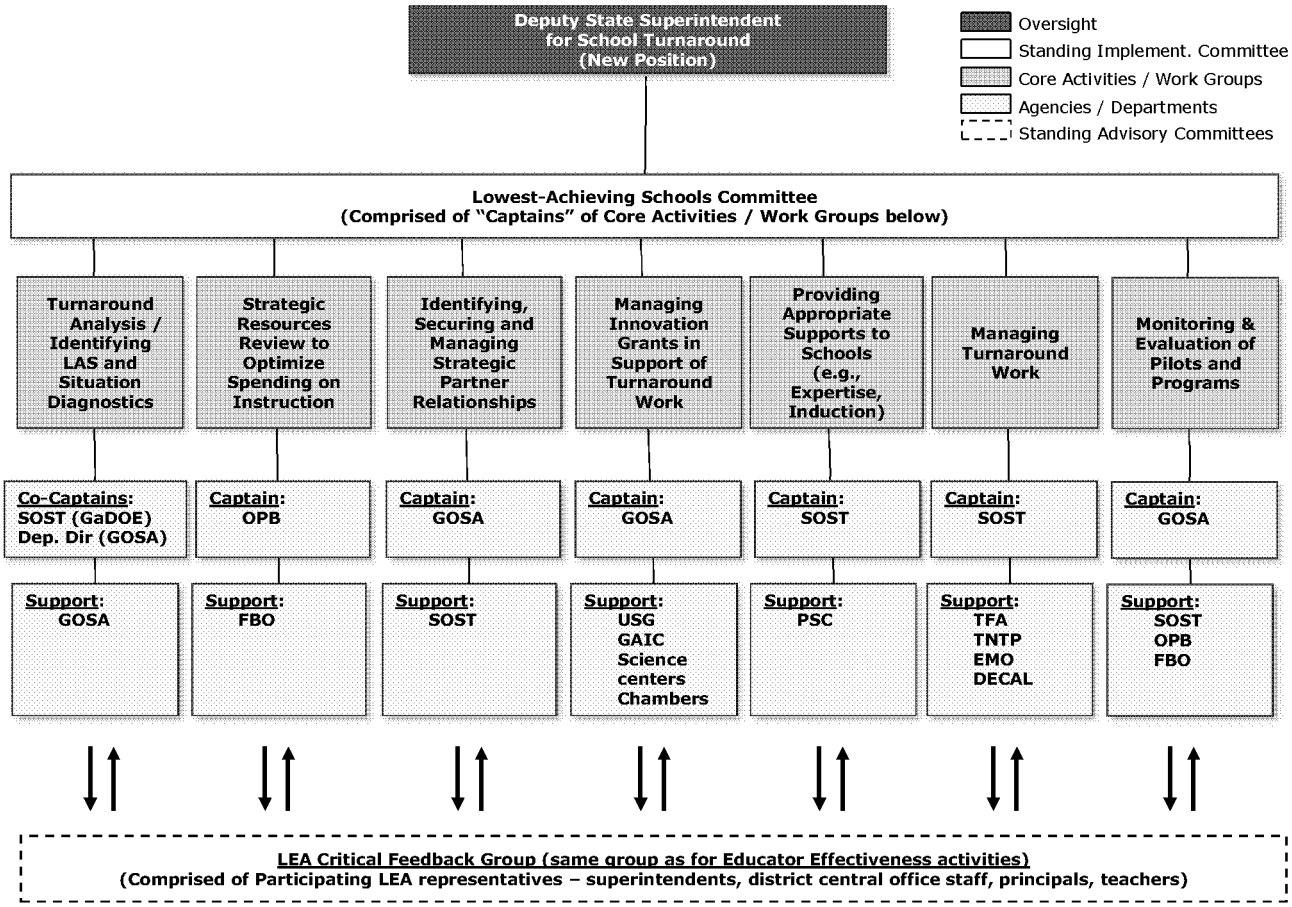
Thank you again for the opportunity to participate in this unprecedented reform moment.

Sincerely,



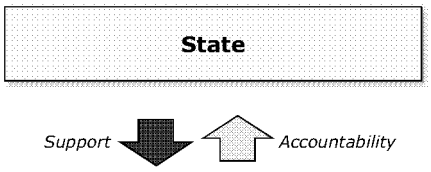
State Superintendent of Schools, Georgia

Appendix A27: Oversight Structure for Turning Around Lowest-Achieving Schools



Appendix A28: System-wide Effectiveness and Accountability

SYSTEM-wide Approach to Effectiveness and Accountability (Within K-12)



State

- Creates and implements policies (standards, assessments, educator certification requirements, AYP requirements, etc.)
- Monitors student achievement across districts
- Provides support in the form of funding, professional development and other services

District Effectiveness Measure (DEM)

- Implements state and district policies
- Responsible for student achievement across schools
- Provides support to school leaders through district's central office functions (recruiting, hiring, professional development)

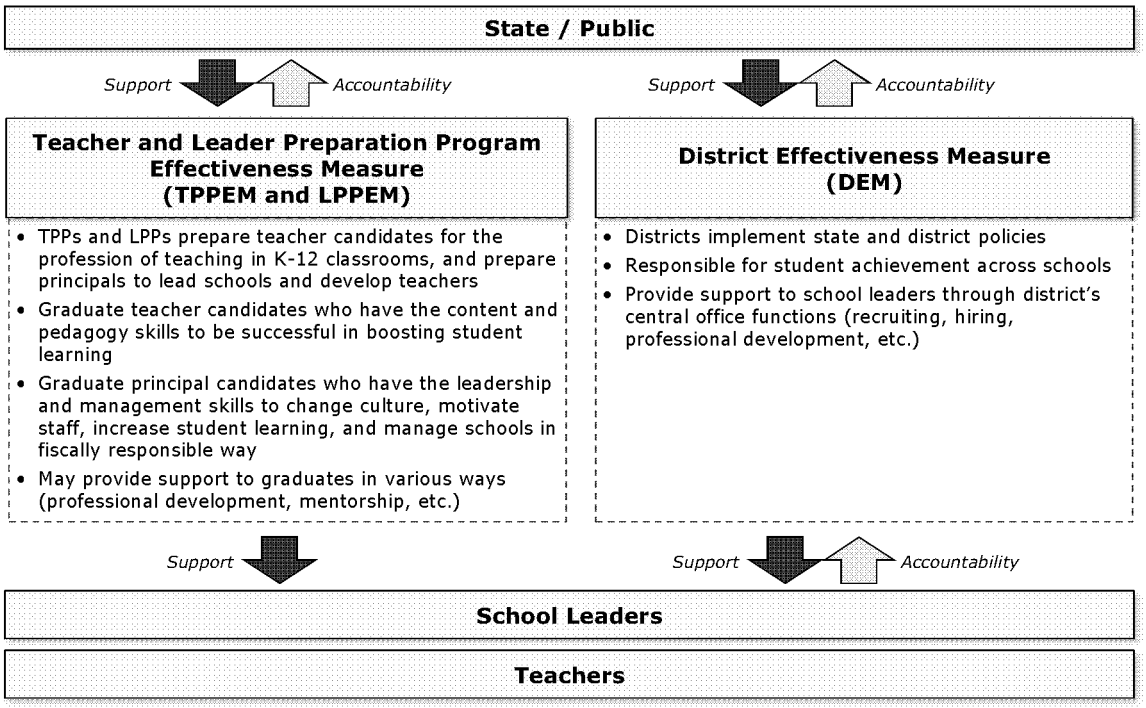
Leader Effectiveness Measure (LEM)

- Provides instructional leadership and manages school operations
- Responsible for school-wide performance
- Evaluates teachers and ensures that they have appropriate professional development supports to achieve full potential

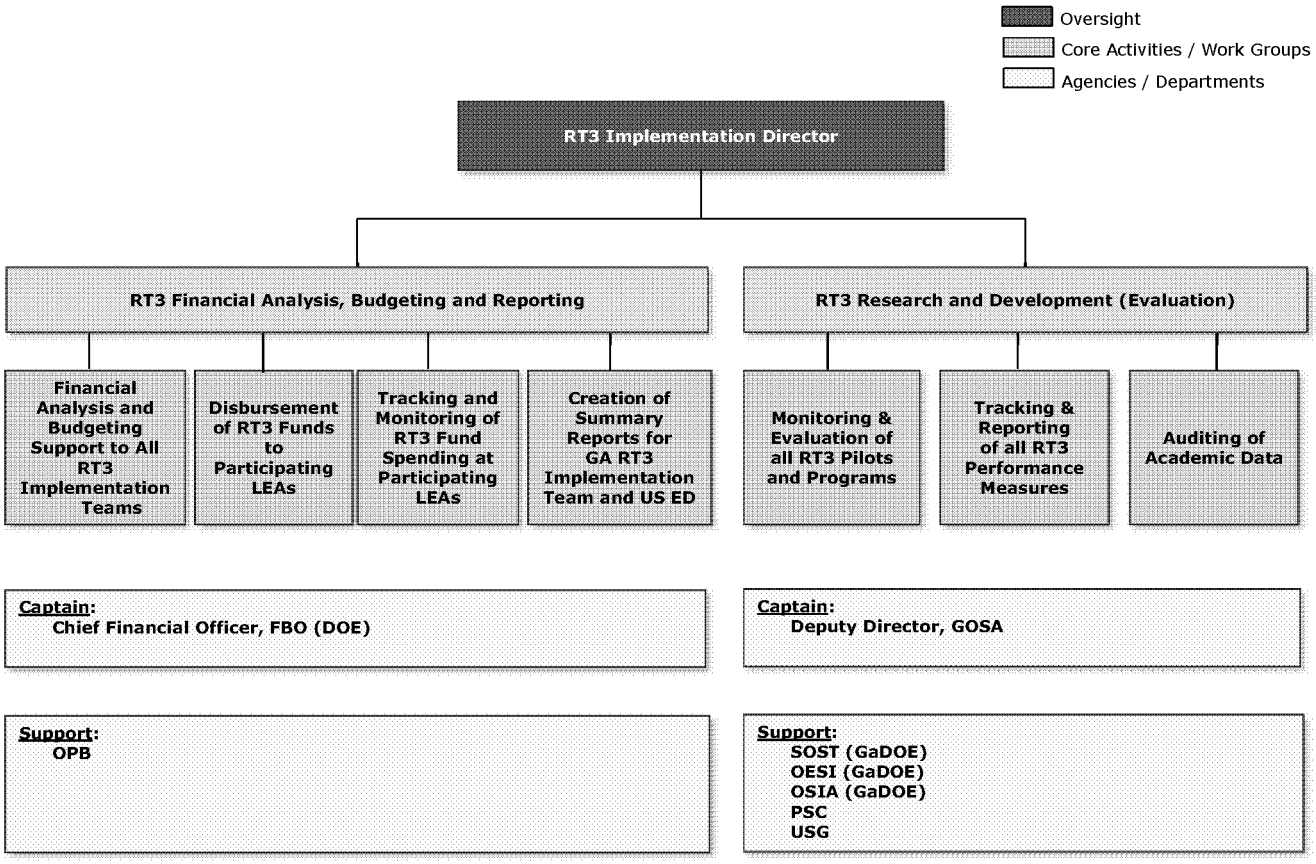
Teacher Effectiveness Measure (TEM)

- Provides instruction to students, teaching to Georgia's Performance Standards and using data to modify instruction
- Responsible for student learning and achievement

SYSTEM-wide Approach to Effectiveness and Accountability (Across K-12 and Teacher Preparation Programs)



Appendix A29: Oversight Structure for Budgeting, Reporting, and Evaluating



Appendix A30: Georgia RT3 Budget Narrative

I. Georgia Race to the Top Budget Summary Table

Budget Part I: Budget Summary Table

Total Cost

		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$9,127,948	$12,519,787	$11,253,439	$11,995,592	$44,896,765
2	Fringe Benefits	$2,753,823	$2,521,774	$1,523,132	$1,055,132	$7,853,860
3	Travel	$288,146	$1,356,346	$145,196	$33,300	$1,822,988
4	Equipment	$3,333,540	$1,153,855	$815,276	$307,900	$5,610,571
5	Supplies	$2,045,889	$2,117,985	$125,851	$99,831	$4,389,556
6	Contractual	$37,068,515	$30,764,795	$26,838,172	$23,730,663	$118,402,145
7	Training Stipends	$1,286,667	$2,015,167	$1,136,917	$885,250	$5,324,000
8	Other	$300,750	$1,160,167	$506,817	$433,644	$2,401,377
9	Total Direct Costs (lines 1-8)	$56,205,277	$53,609,875	$42,344,799	$38,541,311	$190,701,262
10	Indirect Costs (@10% of personnel and fringe)	$1,188,177	$1,504,156	$1,277,657	$1,305,072	$5,275,063
11	Funding for Involved LEAs	$0	$0	$0	$0	$0
12	Supplemental Funding for Participating LEAs	$0	$0	$0	$4,000,000	$4,000,000
13	Total Costs (lines 9-12)	$57,393,454	$55,114,031	$43,622,456	$43,846,384	$199,976,325
14	Funding for All LEAs (@50% of Total)	$57,393,454	$55,114,031	$43,622,456	$43,846,384	$199,976,325
	Total	**$114,786,908**	**$110,228,061**	**$87,244,913**	**$87,692,767**	**$399,952,650**

Appendix A30: Georgia RT3 Budget Narrative

II. Summary Budget Narrative

Overall, the Georgia Race to the Top budget is $400MM distributed evenly between districts and the State. Throughout the development of this budget, the team worked with Georgia's seven state education agencies and several implementation teams including agency senior staff and the Governor's Office of Planning and Budget. This cross-organizational approach was used to ensure that all educational initiatives and funding align. A breakout of the budget by assurance area can be found below:

Assurance Area	State Portion of Budget	% of Total
Great Teachers & Leaders	$ 65,764,184	33%
Standards & Assessments	$ 21,391,693	11%
Data Systems to Improve Instruction	$ 42,142,547	21%
Turning Around Lowest Achieving Schools	$ 32,956,703	16%
Innovation Fund	$ 15,000,000	8%
Project Management	$ 16,102,385	8%
Invitational Priority #3: Early Learning Outcomes	$ 1,343,750	1%
Indirect Costs	$ 5,275,063	3%
Totals	**$ 199,976,325**	**100%**

GREAT TEACHERS AND LEADERS

This represents the biggest portion of the State's proposed budget. **At the heart of the State's plan is increasing the overall effectiveness of teachers and principals,** recognizing that effective teachers and principals are critical factors in raising student achievement. $66MM of the State's portion of the budget is dedicated to developing and evaluating Georgia's teachers and leaders. Much of the spend early on will come in the form of **developing Teacher Effectiveness and Leader Effectiveness Measures** (TEMs and LEMs respectively) to accurately measure a teacher or principal's impact on students. Indeed, at least 50% of the TEM and LEM scores will come from student progress, and these scores will be used in key talent management decisions in Participating LEAs

(including targeted professional development, compensation, promotion and career advancement opportunities, and dismissal decisions).

Georgia's partnering LEAs are eager to participate in the development of a more rigorous and quantitatively-based evaluation system as a basis for teacher and principal compensation. **26 LEAs representing approximately 40% of the teacher population have signed Memoranda of Understanding with the State.** These LEAs will collaborate with the State to finalize the evaluation system in 2010-11, begin to implement the evaluation system in 2011-12, and will qualify for access to the new (proposed) performance-based compensation system for their teachers in 2013-14 (LEAs will need two full years of reliable evaluation and effectiveness data on their teachers before they can tie compensation-related decisions to the data). LEAs will pay for the performance-based compensation program out of their portion of RT3 funding, per the MOU they signed with the State. A description of the performance-pay system is provided in *Appendix D12: Performance-based Compensation Guidelines.*

The evaluation system will be rolled out to more than the 26 Participating LEAs. The State's goal is to roll out the entire evaluation system (including the value-added model, the research-based evaluation tool, and new quantitative measures such as surveys) to **all** LEAs over the 4-year period of the RT3 grant. Since 2010-11 is a planning and validation year, rollout will begin with the 2011-12 year, which translates into an average of 60 LEAs coming on board every year (181 LEAs spread over 3 years) through 2013-14.

In order to **grow the pipeline of effective teachers in STEM fields,** Georgia is partnering with UTeach and will fund three UTeach sites in the State. And to **provide targeted professional development to teachers and rigorous courses to students in STEM,** Georgia is also partnering with the Georgia Institute of Technology's outreach center CEISMC. CEISMC will develop rigorous standards-aligned STEM courses for middle school and high school students, and will also provide targeted professional development to teachers.

TURNING AROUND LOWEST-ACHIEVING SCHOOLS

This is the third largest part of the State's proposed budget at $33MM. Georgia recognizes that it will need to take a bolder, more aggressive approach to school improvement in order to turn around the 30+ schools that have persisted in NI status for the last seven

years (these schools were on the original list of NI schools in 2003, and have remained on that list since then). In addition, there are other schools (among the current total of 278 NI schools) that need assistance as soon as possible in order to prevent another generation of students from going through a low-quality learning environment that will not allow them to achieve their full potential.

Of the 26 LEAs that have signed MOUs with the State, LEAs have schools that are persistently lowest-achieving. Of the 62 schools that we have identified as persistently lowest-achieving in the State of Georgia (based on methodology described in section E2), are included in the LEAs that have signed MOUs with the State.

RT3 gives Georgia an unprecedented opportunity to enter into strategic partnerships with organizations such as **Teach for America (TFA)** and **The New Teacher Project (TNTP),** which will help increase the pipeline of effective teachers to those lowest-achieving schools. Partnerships with TFA and TNTP will first and foremost target LEAs with lowest-achieving schools, although to the extent that there are other LEAs (without lowest-achieving schools) in the same regional clusters, they too can benefit from the pipeline of teachers that will be developed by TFA and TNTP.

Finally, Georgia is also expanding its existing partnership with **Communities in Schools in Georgia (CISGA)** to allow for the creation of up to3new CISGA-led centers in LEAs that have lowest-achieving schools. These centers may either take the form of Performance Learning Centers (deliver prevention services to high school students who are at risk of drop out) or Life and Learning Academies (deliver services to middle school students who are also at risk of dropping out; will be piloted in Georgia in Fall 2010).

DATA SYSTEMS TO IMPROVE INSTRUCTION

The third component of Georgia's RT3 budget is Data Systems at $42MM of the State's portion of the RT3 budget. **Accurate TEM and LEM scores for performance-based pay hinge critically upon reliable and timely data at an extremely granular level, hence the additional investments required in statewide longitudinal data systems.** Although Georgia is one of only eleven states that currently capture all 10 elements identified in the Data Quality Campaign, further improvements are necessary to track teacher and principal performance. More frequent and robust collection of student performance data and stronger links between students and teachers are already under development with the first round of SLDS federal grants ($8.9MM).

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A strong Statewide Longitudinal Data System will also open the door to a rapid-time decision support system. Teachers, school administrators, parents, researchers, and other constituents will be able to access user-friendly reports via an online web portal. Equally important is the development of instructional improvement reports for teachers. Instructional Improvement Reports require not only a data system as a foundation but also the **formative and benchmark assessments** necessary to provide frequent and actionable feedback to teachers, both projects in Georgia's RT3 plan.

STANDARDS AND ASSESSMENTS

The fourth component of Georgia's RT3 budget is Standards and Assessments at $21MM of the state's portion of the RT3 budget. These costs include the following main categories: (1) preparation of materials for roll-out of Common Core Standards (e.g., organization of resources, identification of gaps, website resources); (2) development of training courses related to CCS; (3) delivery of the training through several modes (face-to-face training for school/district teams—up to 4 trainees per school; online training with facilitation for new teachers; and online training without facilitation for veteran teachers); (4) development of formative and benchmark assessment to allow teachers to have more "real-time" information on progress of their students; (5) development of assessments / data training courses (focused on how to create formative assessments; how to utilize assessment data to modify and improve instruction); and (6) delivery of these assessment training courses (online, with facilitation).

INNOVATION FUND

A competitive Innovation Fund will be funded by $15MM from the RT3 grant (7.5% of the State's portion of the budget). Grants will be awarded from this fund to partners that have innovative and high-impact programs aimed at one or more of the following: (1) raising student achievement through development and delivery of applied courses, or applied experiences outside the classroom; (2) raising teacher effectiveness through support for innovative induction programs that are true partnerships between K-12 schools systems and institutions of higher education (IHE); and (3) increasing the pipeline of effective teachers and principals by focusing on growing local capacity through Grow Your Own Teacher (GYOT) programs in the neediest rural regions (through partnerships between K-12 school systems and IHEs). These GYOT programs would be complementary to the partnerships with TFA and TNTP in that they would focus on the local community and target a completely different demographic (career changers in the local community; adults in the community who may or may not have completed a college degree; and high capacity freshman and sophomore students currently enrolled in local IHEs) who might be enticed into the teaching profession or school leadership positions.

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The State is currently in discussions with private partners to augment the $ 15MM Innovation Fund with private and philanthropic funds.

PROJECT MANAGEMENT

Project management costs amount to $16MM of the State's portion of the RT3 budget. Project management includes costs of dedicated staff and a project management office that crosses all of the assurance areas. This will ensure that all of the projects and funding are aligned:

(1) New positions dedicated to oversight of critical RT3 initiatives, e.g., the RT3 Implementation Director overseeing the entire effort; the Deputy Superintendent for School Turnaround overseeing turnaround of lowest-achieving schools, and Innovation Fund Director overseeing the competitive grant award process against the Innovation Fund. See organization charts in *Appendices A20, A22, A24, A25, A27, and A29*.

(2) New dedicated teams to focus on specific reform areas or functions: SLDS Director and support staff; Research and Development staff in GOSA dedicated to monitoring, tracking, auditing and evaluating pilots and progress against performance measures; dedicated budget staff to support budgeting and financial analyses needs across the initiatives;

(3) External technical assistance to support implementation efforts at the State level (while internal State capacity is being built), to conduct strategic resource reallocation reviews for a select number of districts and also at the State level, and to provide strategic planning guidance to the State as needed, throughout its implementation efforts. The technical assistance partner will help the State develop frameworks, processes and tools that the State will then be able to deploy in other districts as part of the overall effort to optimize use of financial resources in the service of instruction.

III. Timing of Funds

Projects have been aligned so that funds are distributed relatively evenly across all four years. However, earlier years will be more development-heavy (e.g. development of assessments, Value Added Model, longitudinal data system, etc.) while later years will be more implementation-heavy (e.g. rollout of differentiated pay, etc.).

IV. Leveraging Other Funding Sources

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a) **Federal Funds:** The State will utilize existing and future federal grants where possible to leverage any RT3 funding and to advance goals developed under RT3.

School Improvement Grants (SIG) will directly impact the lowest achieving schools. Georgia received approximately $122MM in SIG funds. The distribution of these funds will be aligned to those disbursed to LEAs as part of Race to the Top and will mutually reinforce one another. The list of SIG schools directly aligns with the lowest achieving schools identified in RT3. SIG disbursements to low achieving schools are expected to range between $800K and $2MM per school per year (depending on the number of schools that will be eligible to receive these funds). This funding on top of the RT3 funding for lowest-achieving schools will provide significant resources for cutting edge school improvement initiatives.

RT3 will be used to expand the breadth, quality, and frequency of data collections and develop a reporting system electronically accessible by all 7 Georgia educational agencies and external constituents to varying degrees. These funds will build upon this system already in place, improve collections to the point where student progress can be accurately measured, and add capabilities for a rapid-time decision support systems and linkages into non-educational systems (e.g. Georgia Department of Labor). These additional system capabilities will be critical in capturing the quality of data necessary to accurately evaluate teachers and leaders.

Approximately 5% of the $75MM in Georgia's Title II A funds ($3MM to $4MM annually) is directly aligned with several RT3 initiatives including the Innovation Fund and performance-based compensation program. Indeed, Title II A regulations require that the State use 2.5% of funds as subgrants for local partnerships similar to those outlined in Innovation Fund goals and the other 2.5% of funds for a variety of State activities including professional development, merit-based performance systems, and other initiatives included in Georgia's RT3 plans.

Title II D represents an annual funding stream of $9MM and one-time ARRA funding of $22MM. 5% of Title II D stays with the State while the remaining 95% is disbursed to LEAs either through formula or competitive grants. The State has the flexibility to award up to 100% of the LEA amount in the form of competitive grants. These grants can be awarded to qualifying LEAs for a variety of instructional uses, including: advancing use of formative assessments through technology (acquisition and integration of web-based instructional improvement systems that enable teachers to obtain formative real-time data on students); equipping classrooms with handheld devices to allow for real-time assessment and feedback; enhancing the LEA parent portal to include

longitudinal data; and other uses.

b) State and Local Funds

The State is making an investment as part of its Project Management initiative in an intensive resource reallocation review at both the State Education Agency and participating LEA levels. The State will secure external technical expertise in these areas and will make this expertise available to a select number of districts. The State will also use the services of this technical assistance partner to build internal State capacity to conduct these types of reallocation reviews once the RT3 funding expires. The technical assistance partner will help the state develop frameworks, processes and tools that the State will then be able to deploy in other districts as part of the overall effort to optimize use of financial resources in the service of instruction. These strategic resource reallocation reviews will focus on improving resource efficiencies at all levels. The objective is two-fold: firstly to ensure that all parties are using resources as effectively and efficiently as possible in the support of student instruction, and secondly to facilitate the sustainability of those reforms that prove most valuable beyond the lifetime of the RT3 grant.

c) Private Funds

The State is committed to seeking out private funds where possible. The State is already in discussions with private partners to augment the Innovation Fund that is being proposed as part of Georgia's RT3 approach. In addition, partnerships have been selected that multiply the State's dollars. For example, Teach for America has committed to finding private funding for ~70% of the costs of the program whereas the smaller remainder will be funded by the State. UTeach is another example of a partnership where the State directly provides a portion of the overall funding, with the rest coming from those institutions of higher education which become partner sites for UTeach.

V. Budget Project List

Although most projects will impact several assurance areas, they have been categorized beneath the primary assurance area that they fall under. Below are a list and a brief description of each project. References to the main application are included so that the reader may understand in more detail how the project fits into Georgia's larger vision.

a) Standards and Assessments

Appendix A30: Georgia RT3 Budget Narrative

#	Project Name	Description	Application Reference
1	Preparation for Common Core Standards (CCS) Rollout	• Organize, evaluate and improve existing resources in preparation for Core Curriculum Standards implementation; and raise awareness of existing resources/new standards	(B)(3)
2	Development and Delivery of Training on CCS	• Development of 2 professional learning unit (PLU) courses for teachers (on new standards, and on use of data to modify and improve instruction) • Train the trainer face-to-face training on new standards • Web-based training for all teachers in Math and ELA areas on new standards • Web-based training for all teachers in tested subject areas on use of assessment data (formative, benchmark, summative) to modify and improve instruction in the classroom	(B)(3)
3	New Formative Assessments	• Development of test items so that teachers have feedback required to assess students in rapid time	(B)(3)
4	New Benchmark Assessments	• Development of test items so that teachers have feedback required to assess students more frequently than summative assessments	(B)(3)
5	PSAT Examinations	• Funds to cover PSAT exam fees for all high school juniors	(B)(3)

b) Data Systems to Support Instruction

#	Project Name	Description	Application Reference
6	P-20 Enterprise Data Hub Design, Development and Implementation	• Data system to electronically link educational data between Pre-K, K-12, Secondary, Post-secondary, and Workforce systems	(C)(2) (C)(3)
7	Student matching system	• System to accurately identify students transitioning between schools and systems	(C)(2), (C)(3)

8	Decision support systems	• Web-based portal accessible by parents, teachers, administrators, researchers, policy-makers, and other key constituents that will provide access to student and/or school performance data • Instructional improvement system providing rapid-time and actionable feedback to teachers on student performance	(C)(2) (C)(3)
9	Georgia Department of Education (GaDOE) projects	• Technology projects required of the GaDOE to successfully implement RT3 initiatives • Examples include rolling out new data collections within schools and developing systems to track performance of new initiatives	(C)(2) (C)(3)
10	Professional Standards Committee (PSC) projects	• Technology projects required of the PSC to successfully implement RT3 initiatives • Examples include necessary system modifications to track teachers back to certifying institution of higher education	(C)(2) (C)(3)
11	University System of Georgia (USG) projects	• Technology projects required of the USG to successfully implement RT3 initiatives • Examples include aggregating teacher performance data from individual campuses to central system	(C)(2) (C)(3)
12	Technical College System of Georgia (TCSG) projects	• Technology projects required of the TCSG of Georgia to successfully implement RT3 initiatives • Examples include aggregating teacher performance data from individual campuses to central system	(C)(2) (C)(3)

c) Great Teachers and Leaders

#	Project Name	Description	Application Reference

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13	Value-Added Growth Model	• An external vendor will develop a model used to analyze student assessment results in such a way as to measure the value that a school or teacher contributes to a student's learning progress during a particular time period • Used as an input into Teacher Effectiveness Measures (TEM) and other effectiveness measures (see Section D2 in application)	(D)(2)(i)
14	Development, testing and validation of other quantitative measures	• Parent, student, peer (teacher) and climate surveys used as input into Teacher Effectiveness Measures (TEM) and other effectiveness measures (see Section D2 in application) • Due to the dramatic changes to the certification and compensation systems, also includes personnel support at PSC to assist with implementation of changes	(D)(2)(i)
15	Evaluation instrument and validation	• The finalization of a research-based evaluation tool to provide both formative and summative feedback to teachers and leaders	(D)(2)(i) and (D)(2)(ii)
16	Evaluation training and evaluation process feedback	• Training for individuals who will conduct evaluations • Feedback on the overall evaluation process and tools	(D)(2)(i) and (D)(2)(ii)
17	Performance-based pay for teachers	• Implementation of a performance-based compensation system based on a teacher's effectiveness in progressing student learning during a particular time period; considers both qualitative and quantitative measures (See Appendix D12)	(D)(2)(iv)
18	Performance-based pay for leaders	• Implementation of a performance-based compensation system based on a leader's effectiveness during a particular time period; considers both qualitative and quantitative measures (See Appendix D12)	(D)(2)(iv)
19	Equitable distribution relocation incentives	• Incentives given to effective teachers to encourage movement to high-need areas (e.g. rural, low achieving areas, etc.). See section (D)(3).	(D)(3)
20	Increasing supply of effective science and math teachers	• Majority of funding will be for the UTeach partnership • Focus is on increasing the number of science and math teachers coming out of institutions with significant numbers of science and math majors	(D)(3)
21	Focused professional development for teachers in math and science	• Majority of funding will be for The Center for Education Integrating Science, Mathematics, and Computing (CEISMC) • Focus is to further develop existing teachers in math and science	(D)(5) STEM Competitive Preference

22	Sharing of best practices	• Summer Leadership Academies that bring high-potential teams from low achieving schools together for professional development	(D)(5) (E)(2)
23	Quality Plus Leadership Academy (Q+)	• Encompasses both an Aspiring Leaders Program (teachers who want to become principals) and Aspiring Principals Program (assistant principals who want to become principals) • Covers 2 additional districts and touching 50K students total	

d) Turning Around the Lowest Achieving Schools

#	Project Name	Description	Application Reference
24	Teach for America	• Partnership to increase pipeline of effective teachers in Georgia, especially to lowest-achieving schools in metro Georgia • Focused on expansion within areas where TFA already has substantial presence	(D)(3) (E)(2)
25	The New Teacher Project	• Partnership to increase pipeline of effective teachers in Georgia, especial to lowest-achieving schools in rural / remote parts of Georgia • Focused primarily on rural/distant regions of Georgia, but will also service metro areas	(D)(3) (E)(2)
26	Turnaround services	• Educational Management Organization (EMO) costs associated with the restart turnaround option • Intensive LEA resource review to ensure efficiency of resource utilization	(E)(2)
27	CIS Georgia	• Partnership with CIS Georgia to develop standalone prevention dropout centers within district with lowest –achieving schools • Provide services to students who are at high risk of drop-out to prevent them from dropping out (example of "multiple pathways" for students)	(E)(2)

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e) Projects Spanning All Assurance Areas

#	Project Name	Description	Application Reference
28	Innovation Fund	• Competitive fund to be disbursed to external partners and/or districts at State's discretion. Primary goal is to stimulate K12/IHE partnerships focused on one of three areas: 1) Applied Learning Opportunities for Students 2) Increased Effectiveness of Teachers and Leaders 3) Pipeline of Effective Teachers	(A)(2)
29	Project Management	• A group of dedicated personnel across agencies who coordinate work under a RT3 project director; together ensuring the successful alignment and tracking of projects across assurance areas	(A)(2)
30	Invitational Priority #3: Early Learning Outcomes	• Georgia Bright From the Start Program improvements to increase evaluation capabilities at the pre-K levels	Invitational Priority #3

VI. Project Organization and Management

To ensure that each project is aligned to the overall Georgia education vision, a RT3 Implementation Director has been allocated. Within each activity, an *organizational captain* has been identified to act as a steward that can drive and ultimately be responsible for outcomes. Each captain also has a variety of *organizational supports* from other entities within Georgia to facilitate execution and adoption.

For more details on the organization and management of Georgia's Race to the Top projects, please see *Appendices 20, 22, and 24-26*

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a) Great Teachers and Leaders

Activity	Organizational Captain	Support
Development and Validation of Evaluation Instruments	• OESI (GaDOE)	• GOSA • PSC • APS
Development of Value-Added Model	• GOSA	• Value-added (VA) vendor • OESI
Development of Other Quantitative Instruments	• GOSA	• OESI • DECAL • Gwinnett
Training of Evaluators and LEA Trainers	• OESI (GaDOE)	• VA vendor
Monitoring of Preparation Programs and Certifications Requirements	• PSC	• USG
Teacher and Principal Prep Programs / Equitable Distribution	• USG	• UTeach Institutions • GOSA • PSC • TFA/TNTP
Monitoring &Evaluation of Pilots & Programs	• GOSA	• OESI • PSC • USG

b) Turning Around Lowest Achieving Schools

Activity	Organizational Captain	Support
Turnaround Analysis / Identifying LAS and Situation Diagnostics	• SOST (GaDOE) • Dep.Dir (GOSA)	• GOSA
Strategic Resources Review to Optimize Spending on Instruction	• OPB	• FBO

Identifying, Securing and Managing Strategic Partner Relationships	• GOSA	• SOST
Managing Innovation Grants in Support of Turnaround Work	• GOSA	• USG • GAIC • Science centers • Chambers
Providing Appropriate Supports to Schools (e.g., Expertise, Induction)	• SOST	• PSC
Managing Turnaround Work	• SOST	• TFA • TNTP • EMO • DECAL
Monitoring & Evaluation of Pilots and Programs	• GOSA	• SOST • OPB • FBO

c) Data Systems to Improve Instruction

Activity	Organizational Captain	Support
Data system development	• SLDS Director (GOSA)	• DECAL • DOE • USG • TCSG • PSC • GSFC

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d) Standards & Assessments

Activity	Organizational Captain	Support
Evaluating, Organizaing, and Enhancing Existing Resources	• Deputy Superintendent for Standards, Instruction and Assessment (DSSIA)	• Associate Superintendent for Standards-Based Learning (ASBL)
Rollout of Common Core Standards	• DSSIA	• ASBL
Development of PLU Courses Targeted at Standards Delivery	• DSSIA	• ASBL
Development of PLU Courses Targeted at Use of Assessments	• DSSIA	• Associate Superintendent for Assessment and Accountability (ASAA) • Director, GPB Education/Outreach
Delivery of Training to Teachers and LEA Trainers	• DSSIA	• ASAA Director, GPB Education/Outreach
Development and Testing of Formative and Benchmark Assessments	• DSSIA	• ASAA Director, GPB Education/Outreach
Raise Awareness of Resources and Communicate With Field	• DSSIA	• Director of Communications (DOE) • Director, GPB Education/Outreach

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VI. Individual Project Budgets

STANDARDS & ASSESSMENTS

1) Organize, evaluate, and improve existing resources in preparation for CCS implementation; and raise awareness of existing resources and new standards

	Project name:	Organize, evaluate and improve existing resources in preparation for CCS implementation; and raise awareness of existing resources/new standards				
	Project number:	1				
	Funding source	RTTT				
	Criteria:	(B)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$340,000	$0	$0	$0	$340,000
2	Fringe Benefits	$102,898	$0	$0	$0	102,898
3	Travel	$0	$0	$0	$0	0
4	Equipment	$0	$0	$0	$0	0
5	Supplies	$0	$0	$0	$0	0
6	Contractual	$0	$0	$0	$0	0
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$442,898	$0	$0	$0	$442,898
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)**	**$442,898**	**$0**	**$0**	**$0**	**$442,898**

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- **PERSONNEL**

  Four content development specialists will be hired in the first year. These content development specialists will update existing web-based content for Content Core Standards.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Hire content specialists					
Salary/specialist		$85,000	$85,000	$85,000	$85,000
Fringe assumption		30.3%	30.3%	30.3%	30.3%
# of specialists		4	0	0	0
Total salary		$340,000	$0	$0	$0
Total fringe		$102,898	$0	$0	$0

- **FRINGE BENEFITS**

  Fringe Benefits are assumed to be 30.264% of the total salary costs of personnel. This figure was derived from historical benefits allocated to State employees. At a total salary of $340K for content development specialists, $102,898 would be attributed to fringe benefits.

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2) Develop training on new standards, and train the field

	Project name:	Develop training on new standards, and train the field				
	Project number:	2				
	Funding source	RTTT				
	Criteria:	(B)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$170,000	$3,258,000	$0	$0	$3,428,000
2	Fringe Benefits	$51,449	$0	$0	$0	51,449
3	Travel	$0	$1,086,000	$0	$0	1,086,000
4	Equipment	$0	$0	$0	$0	0
5	Supplies	$0	$600,000	$0	$0	600,000
6	Contractual	$0	$1,460,810	$394,410	$394,410	2,249,630
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$221,449	$6,404,810	$394,410	$394,410	$7,415,078
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)**	**$221,449**	**$6,404,810**	**$394,410**	**$394,410**	**$7,415,078**

- **PERSONNEL**

  Total personnel costs represent $3,428,000. Two online development specialists will be hired in the first year. These specialists will be tasked with placing the content developed in project 1 on to a web-based portal in a user-friendly fashion. In addition to online development specialists, a significant portion of funds ($3.3MM) will be allocated to the face-to-face training of 8,688 teachers (2 per subject per Georgia school) on the new standards and assessments. These trainings will occur over three days at a personnel cost of $125 per day.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Hire online development specialists					
Salary/specialist		$85,000			
Fringe assumption		30.3%			
# of specialists		2			
Total salary		$170,000			
Total fringe		$51,449			
Deliver face-to-face training via Regional Educational Service Agencies (RESAs)					
# trainees			8688		
personnel cost per trainee			$ 375		
Personnel cost			$ 3,258,000		
Total Personnel Costs	**$ -**	**$ 170,000**	**$ 3,258,000**	**$ -**	**$ -**

- **FRINGE BENEFITS**
  Fringe Benefits are assumed to be 30.264% of the total salary costs of personnel. Salary costs are limited to the online development specialists with $170K in salary. The total fringe benefits are therefore estimated to be $51,449.

- **TRAVEL**
  Travel costs are covered for 8,688 teachers trained at Regional Educational Service Agencies which are geographically distributed throughout the State. These costs are expected to be $125 over the course of 3 days (~$42/day). Since trainings will be distributed throughout the state, it is expected that overnight lodging will not be required. Total travel costs are expected to be $1,086,000 all to occur in year 2 after development is complete.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
travel cost per trainee			$ 125		
Travel cost			**$ 1,086,000**		

- **SUPPLIES**

The development and distribution of training materials for the 8,688 teachers taking part in standards and assessment training is $600K. This is a one-time cost covered in the first year.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Create, copy, and deliver training materials for face-to-face training					
Training materials		$ 600,000			
Total Supply Costs		**$ 600,000**			

- **CONTRACTUAL**

Total contractual costs amount to $2,249,630. A web-hosted video training program to be used by stakeholders represents $200K of costs. The remainder can be attributed to two training programs: Common Core standards training program ($1.4MM) and an Assessments training program ($838K).

Common Core Standards Training:

Total training costs for Common Core Standards is expected to be $1,411,160. Within current core subject teachers, all 44,650 elementary school teachers (includes only those teaching core subjects) will take two trainings: one for math and one for ELA. In addition, the 17K Georgia middle and high school science and math teachers will take one training

session for their respective subjective areas. In total this represents 108,300 trainings to take place online at $8 per teacher seat. The total one-time cost for the online portion is $866K in year 2. New teachers will be required to take similar training. Instead of online, these teachers will take the training in-person. The total cost each year to train new teachers is expected to be $114,920 annually. To augment the online and face-to-face facilitated training, a web hosted video training will also be developed in the first year for $200K.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Deliver PLU (Common Core Standards)					
Deliver online to veteran teachers					
Elementary teachers			44,650		
Middle and high school ELA & math teachers			19,000		
Total veteran teacher seats			108,300		
Cost per seat			$8		
Total Cost for Online Delivery			$866,400		
Deliver face-to-face to new teachers					
Elementary teachers			44,650	44,650	44,650
Middle and high school ELA & math teachers			19,000	19,000	19,000
% teachers each year new			10.0%	10.0%	10.0%
Total new teacher seats			6,365	6,365	6,365
Cost per seat			$ 8	$ 8	$ 8
Facilitators needed / 50 seats			128	128	128
Cost per facilitator			$500	$500	$500
Total cost for face-to-face delivery			$114,920	$114,920	$114,920
Post video taped training on the website for use by stakeholders					
Web hosted video training		$ 200,000			
Total CCS Training	**$ -**	**$ 200,000**	**$ 981,320**	**$ 114,920**	**$ 114,920**

Assessment Training:

Total assessment training is expected to cost $279,490 annually starting in year 2. Assessment training will be delivered in-person to both existing and new teachers. Existing core teachers will be required to complete the training prior to their recertification (occurs every 5 years). The budget assumes all 35,766 core subject teachers will take the face-to-face

assessment training by the end of 2014 at a cost of $215K annually. In addition, the 3,577 new core teachers entering the Georgia system each year must take the training. Their portion is expected to cost $64,613 annually.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Deliver PLU (Assessments)					
Deliver face-to-face to all existing teachers					
Total teachers up for recertification (all completing training in 3 yrs)			119,221	119,221	119,221
% core teachers			30%	30%	30%
Total core teachers			35,766	35,766	35,766
Core teachers taking PLU each yr (1/3 of total)			11,922	11,922	11,922
Cost per seat			$ 8	$ 8	$ 8
Facilitators needed / 50 seats			239	239	239
Cost per facilitator			$500	$500	$500
Total cost for existing teachers			$214,877	$214,877	$214,877
Deliver face-to-face to all new teachers					
Total core teachers			35,766	35,766	35,766
% teachers each year new			10.0%	10.0%	10.0%
Total new teacher seats			3,577	3,577	3,577
Cost per seat			$ 8	$ 8	$ 8
Facilitators needed / 50 seats			72	72	72
Cost per facilitator			$500	$500	$500
Total cost for new teachers			$64,613	$64,613	$64,613
Total cost for assessment training	**$ -**	**$ -**	**$ 279,490**	**$ 279,490**	**$ 279,490**

Appendix A30: Georgia RT3 Budget Narrative

Appendix A30: Georgia RT3 Budget Narrative

3) Create formative assessments

	Project name:	Create formative assessments				
	Project number:	3				
	Funding source	RTTT				
	Criteria:	(B)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$170,000	$170,000	$170,000	$170,000	$680,000
2	Fringe Benefits	$51,449	$51,449	$51,449	$51,449	205,795
3	Travel	$0	$0	$0	$0	0
4	Equipment	$0	$0	$0	$0	0
5	Supplies	$0	$0	$0	$0	0
6	Contractual	$2,000,000	$0	$0	$0	2,000,000
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$2,221,449	$221,449	$221,449	$221,449	$2,885,795
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)**	**$2,221,449**	**$221,449**	**$221,449**	**$221,449**	**$2,885,795**

- **PERSONNEL**

  Formative assessment specialists will be hired to develop new formative assessment test items. These tests will provide teachers with more actionable, real-time feedback on student performance. The total annual cost for two specialists is expected to be $170K in base salary.

Appendix A30: Georgia RT3 Budget Narrative

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Hire assessment specialists (formative)					
Salary/specialist		$85,000	$85,000	$85,000	$85,000
Fringe assumption		30.3%	30.3%	30.3%	30.3%
# of specialists		2	2	2	2
Total salary		$170,000	$170,000	$170,000	$170,000

- **FRINGE BENEFITS**

  Fringe Benefits are assumed to be 30.264% of the total salary costs of personnel. Salary costs are limited to the formative assessment specialists with $680K in salary. The total fringe benefits are therefore estimated to be $51,449 annually for a total cost of $205,795

- **CONTRACTUAL**

  New formative assessment items will be developed by an external provider. These development costs occur entirely in year 1 and amount to $2MM total.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Formative assessment					
New item development		$2,000,000	$0	$0	$0

Appendix A30: Georgia RT3 Budget Narrative

4) Create benchmark assessments

	Project name:	Create benchmark assessments				
	Project number:	4				
	Funding source	RTTT				
	Criteria:	(B)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$170,000	$170,000	$170,000	$170,000	$680,000
2	Fringe Benefits	$51,449	$51,449	$51,449	$51,449	205,795
3	Travel	$0	$0	$0	$0	0
4	Equipment	$0	$0	$0	$0	0
5	Supplies	$0	$0	$0	$0	0
6	Contractual	$2,200,000	$2,200,000	$1,000,000	$1,000,000	6,400,000
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$2,421,449	$2,421,449	$1,221,449	$1,221,449	$7,285,795
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)**	**$2,421,449**	**$2,421,449**	**$1,221,449**	**$1,221,449**	**$7,285,795**

- **PERSONNEL**

  Benchmark assessment specialists will be hired to develop new benchmark assessment test items. These tests will provide teachers with more actionable, real-time feedback on student performance. The annual cost for two specialists is expected to be $170K in base salary.

Appendix A30: Georgia RT3 Budget Narrative

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Hire assessment specialists (benchmarks)					
Salary/specialist		$85,000	$85,000	$85,000	$85,000
Fringe assumption		30.3%	30.3%	30.3%	30.3%
# of specialists		2	2	2	2
Total salary		**$170,000**	**$170,000**	**$170,000**	**$170,000**

- **FRINGE BENEFITS**

  Fringe Benefits are assumed to be 30.264% of the total salary costs of personnel. Salary costs are limited to the benchmark assessment specialists with $680K in salary. The total fringe benefits are therefore estimated to be $205,795

- **CONTRACTUAL**

  Thirty-two new benchmark assessment tests will be developed in the following subject and grade areas:

  - Grades 3-8, Math, Science, ELA, Reading (24 total)
  - English, American History (2 total)
  - Biology, Physics, Physical Science (3 total)
  - Algebra I, II and III (3 total)

  These test development costs are $6.4MM total. The majority of those costs occur in the first two years where heavy development occurs. Included in the $6.4MM are ongoing development costs of $1MM per year.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Benchmark assessments					
Total development		$1,200,000	$1,200,000	$0	$0
Total ongoing dev./yr		$1,000,000	$1,000,000	$1,000,000	$1,000,000
# of tests		32	32	32	32
tests/year		1	1	1	1
Total		$2,200,000	$2,200,000	$1,000,000	$1,000,000

5) PSAT Examinations

	Project name:	Preliminary SAT Examinations				
	Project number:	5				
	Funding source	RTTT				
	Criteria:	(B)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$807,669	$829,288	$851,339	$873,831	3,362,127
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$807,669	$829,288	$851,339	$873,831	$3,362,127
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)**	**$807,669**	**$829,288**	**$851,339**	**$873,831**	**$3,362,127**

Appendix A30: Georgia RT3 Budget Narrative

- **CONTRACTUAL**

  The Preliminary SAT, or PSAT, is a standardized test administered by the College Board and the National Merit Scholarship Corporation to high school students nationwide. The test provides students with a practice opportunity for the SAT, allowing them to demonstrate their abilities in critical reading, mathematical problem solving, and composition. PSAT scores are used diagnostically by the state to identify students' strengths and weaknesses as well as readiness for rigorous, college-level work, including Advanced Placement (AP) and International Baccalaureate (IB) courses. $3.4MM in Race to the Top funds will be used to provide every high school student in Georgia with one free PSAT opportunity

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
PSAT Exam Costs					
FRL Population - Net contribution	$ -	$ 167,929	$ 176,753	$ 185,753	$ 194,934
Non-FRL Population - Net contribution	$ -	$ 639,740	$ 652,535	$ 665,585	$ 678,897
Total Cost	$ -	$ 807,669	$ 829,288	$ 851,339	$ 873,831

DATA SYSTEMS TO IMPROVE INSTRUCTION

Project numbers 6, 7, and 8 below were originally expected to be partially funded by the second round of a $14.5MM Institute of Education Sciences (IES2) grant. Between the first and second round of the Race to the Top application submission, Georgia was notified that it will not be receiving these funds. Since developing a strong data system foundation is critical to the success of all programs in this application, the State has chosen to allocate Race to the Top budget towards developing a fully-functioning system. As such, this section includes both Race to the Top and IES2 budget components and many sections will be broken out into both components. All IES2 expenses occur in the first year with the exception of the Decision Support System (project 8) which spans 2 years.

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6) Design, develop, and implement P-20 Enterprise Data Hub to electronically link educational information

	Project name:	Design, develop, and implement P-20 Enterprise Data Hub to electronically link educational information				
	Project number:	6				
	Funding source	RTTT				
	Criteria:	(C)(2), (C)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$1,524,376	$839,303	$750,015	$357,150	$3,470,843
2	Fringe Benefits	$461,337	$254,007	$226,985	$108,088	1,050,416
3	Travel	$5,000	$0	$0	$0	5,000
4	Equipment	$1,170,400	$327,993	$293,100	$139,571	1,931,064
5	Supplies	$712,121	$0	$0	$0	712,121
6	Contractual	$0	$0	$0	$0	0
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$3,873,234	$1,421,302	$1,270,099	$604,809	$7,169,444
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)**	**$3,873,234**	**$1,421,302**	**$1,270,099**	**$604,809**	**$7,169,444**

- **PERSONNEL**

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The development of the Enterprise Data Hub will involve several types of employees that will work under the SLDS Director. The timing and costs of each position can be found in the tables in this section. A description of each position is included below.

- **Business Analyst**
  These positions will analyze business flow processes, recommending procedures for assessment, report on the data as well as ensuring improvements in this process; document reporting requirements.

- **Database Architect / Programmer**
  The programmers will design, develop, build, and modify the database where the LDS data will be stored.

- **Web Developer**
  The Web Developer position will create the layout, program the functionality, including the security, and maintain the LDS website

- **Technical Writer**
  The Technical Writer position will write, edit, organize and revise (as necessary) the documentation for the LDS

- **IT Support Specialist**
  The IT Support Specialist will set up, maintain and monitor the computer system and the computer networks. They will also be responsible for second-tier technical support from data users.

- **BI Developer**
  The BI developer will coordinate with final users of the LDS and the technical staff, to ensure the accuracy of any data models, training, reconcile, audit reports.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
P-20 ENTERPRISE DATA HUB DEVELOPMENT					
Business Analyst					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	1.0	2.0	1.0	0.0
Total RTTT salary	$0	$71,430	$142,860	$71,430	$0
Total RTTT fringe	$0	$21,618	$43,235	$21,618	$0
Database Architect / Programmers					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	1.0	1.3	3.5	3.0
Total RTTT salary	$0	$71,430	$89,288	$250,005	$214,290
Total RTTT fringe	$0	$21,618	$27,022	$75,662	$64,853
Web Developer					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	0.5	1.0	0.5	0.0
Total RTTT salary	$0	$35,715	$71,430	$35,715	$0
Total RTTT fringe	$0	$10,809	$21,618	$10,809	$0

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Technical Writer					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	1.0	2.0	1.0	0.0
Total RTTT salary	$0	$71,430	$142,860	$71,430	$0
Total RTTT fringe	$0	$21,618	$43,235	$21,618	$0
IT Support Specialist					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	3.0	5.3	4.5	2.0
Total RTTT salary	$0	$214,290	$375,008	$321,435	$142,860
Total RTTT fringe	$0	$64,853	$113,492	$97,279	$43,235
BI Developer					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	0.5	0.3	0.0	0.0
Total RTTT salary	$0	$35,715	$17,858	$0	$0
Total RTTT fringe	$0	$10,809	$5,404	$0	$0

In addition to the above, there will be $1,024,366 in Personnel costs for items originally from the second Institute of Education Sciences grant. These costs will cover an additional 3 Business Analysts, 4 DBAs/Programmers, 1 web developer, 1 tech writer, 1 support staff, 2 Business Intelligence Developers and 9 Agency Liaisons.

- **FRINGE BENEFITS**

  Fringe Benefits at 30.264% of personnel salary represent a total of $1,050,416.

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- **EQUIPMENT**

  The original Race to the Top portion of equipment and software is expected to represent 30% of the cost of listed development personnel ($1.275MM). This estimate is from historical state experience with projects requiring heavy IT development. Hardware includes multiple blade servers for Development, Testing, and Production environments. In addition, network switches, cables, and other necessary information technology infrastructure will be covered.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
P20 Equipment	$0	$195,400	$327,993	$293,100	$139,571

  An additional $975K is required to cover equipment originally considered under the second IES grant. IES2 equipment includes but is not limited to multiple configurable blade servers to support 4 environments: Development, Quality Assurance, Pre-Production, and Production; configurable blade enclosures with hardware support racks, multiple rack mountable high performance servers, data transfer networking switches, shared data storage units for a blade system and data storage system controllers.

- **SUPPLIES**

  $712K was allocated towards Business Intelligence software, enclosure hardware support, virtualization software, Licenses for various database software packages, power supply cords, data manipulation software, purchase of any software upgrades and license renewals. Also includes space rental for housing the system.

- **TRAVEL**

  Travel budgeted for the Project Director and Project Manager to travel to Washington DC to the annual two-day meeting with other grantee and IES staff totals $5K. Note that this is a shared expense with the Student Matching System and Decision Support System projects.

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7) Student matching system

	Project name:	Student matching system				
	Project number:	7				
	Funding source	RTTT				
	Criteria:	(C)(2), (C)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$306,450	$35,715	$0	$0	$342,165
2	Fringe Benefits	$92,744	$10,809	$0	$0	103,553
3	Travel	$5,000	$0	$0	$0	5,000
4	Equipment	$552,914	$13,957	$0	$0	566,871
5	Supplies	$212,121	$0	$0	$0	212,121
6	Contractual	$0	$0	$0	$0	0
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$1,169,230	$60,481	$0	$0	$1,229,711
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)**	**$1,169,230**	**$60,481**	**$0**	**$0**	**$1,229,711**

- **PERSONNEL**

  The Race to the Top portion of student matching system will involve several types of employees that will work under the SLDS Director. The timing and costs of each position can be found in the tables in this section. A description of each position is included below.

- **Business Analyst**
  These positions will analyze business flow processes, recommending procedures for assessment, report on the data as well as ensuring improvements in this process; document reporting requirements.

- **Database Architect / Programmer**
  These positions will develop and design the algorithm necessary for the student matching system. In addition, they will test and confirm output of the student matching system to ensure accuracy.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
STUDENT MATCHING SYSTEM					
Business Analyst					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	30.3%	30.3%	30.3%	30.3%	30.3%
FTE-years	0.0	0.5	0.3	0.0	0.0
Total RTTT salary	$0	$35,715	$17,858	$0	$0
Total RTTT fringe	$0	$10,809	$5,404	$0	$0
Database Architect / Programmers					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	30.3%	30.3%	30.3%	30.3%	30.3%
FTE-years	0.0	0.5	0.3	0.0	0.0
Total RTTT salary	$0	$35,715	$17,858	$0	$0
Total RTTT fringe	$0	$10,809	$5,404	$0	$0

In addition, $235,020 has been allocated for the IES2 portion of this project. This consists of 1 Business Analyst, 1 DBA, 3 developers, 1 technical writer, 1 web developer, 1 support staff member, and 7 agency liaisons.

- **FRINGE BENEFITS**
  Fringe Benefits at 30.264% of personnel salary represent a total of $103K.

- **EQUIPMENT**
  The Race to the Top portion of equipment and software is expected to represent 30% of the cost of development personnel ($42K). Hardware includes multiple blade servers for Development, Testing, and Production environments. In addition, network switches, cables, and other necessary information technology infrastructure will be covered.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Student Match Equipment	$0	$27,914	$13,957	$0	$0

The IES2 portion of equipment includes multiple blade servers in development, pre-production, production, and test environments at a total cost of $525K.

- **SUPPLIES**
  For the IES2 portion of supplies, $212K was allocated towards Business Intelligence software, enclosure hardware support, virtualization software, Licenses for various database software packages, power supply cords, data manipulation software, purchase of any software upgrades and license renewals. Also includes space rental for housing the system.

- **TRAVEL**

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Travel budgeted for the Project Director and Project Manager to travel to Washington DC to the annual two-day meeting with other grantee and IES staff totals $5K. Note that this is a shared expense with the Enterprise Data Hub and Decision Support System projects.

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8) Decision support systems

	Project name:	Decision support systems				
	Project number:	8				
	Funding source	RTTT				
	Criteria:	(C)(2), (C)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$3,381,112	$3,648,974	$464,295	$142,860	$7,637,241
2	Fringe Benefits	$1,023,260	$1,104,326	$140,514	$43,235	2,311,335
3	Travel	$5,000	$5,000	$0	$0	10,000
4	Equipment	$83,743	$188,421	$181,443	$55,829	509,435
5	Supplies	$1,091,627	$1,091,627	$0	$0	2,183,254
6	Contractual	$0	$0	$0	$0	0
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$5,584,741	$6,038,348	$786,252	$241,924	$12,651,265
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)**	**$5,584,741**	**$6,038,348**	**$786,252**	**$241,924**	**$12,651,265**

- **PERSONNEL**

  The Race to the Top portion of the Decision Support System (DSS) will involve several types of employees that will work under the SLDS Director. The timing and costs of each position can be found in the tables in this section. A description of each position is included below.

  - **Database Architect / Programmer**

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The programmer will develop the applications necessary to communicate with the LDS

- **Web Developer**
  The Web Developer position will create the layout, program the functionality, including the security, and maintain any web based reports

- **Technical Writer**
  The Technical Writer position will write, edit, organize and revise (as necessary) the documentation for the Decision Support System

- **BI Developer**
  The BI Developer will coordinate with final users of the DSS and the technical staff, to ensure the accuracy of any data models, training, or reports.

- **Agency Liaison**
  Dedicated liaison positions within each of the participating agencies will be involved with each agency's data elements and definitions. Each of these positions will coordinate with the project director as well as the project manager on all aspects of the LDS implementation. Liaisons will come from the University System of GA, GA Student Finance Commission, Technical College System of GA, Professional Standards Commission, GA Dept of Education, Department of Early Care and Learning and the Department of Labor.

- **Researcher**

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The Researcher position will assist in performing research for the State and also play an advisory role in determining the State's research agenda.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
DECISION SUPPORT SYSTEM					
Database Architect / Programmers					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	0.0	2.3	1.5	0.0
Total RTTT salary	$0	$0	$160,718	$107,145	$0
Total RTTT fringe	$0	$0	$48,640	$32,426	$0
Web Developer					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	0.0	1.5	1.0	0.0
Total RTTT salary	$0	$0	$107,145	$71,430	$0
Total RTTT fringe	$0	$0	$32,426	$21,618	$0
Technical Writer					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	0.0	1.5	1.0	0.0
Total RTTT salary	$0	$0	$107,145	$71,430	$0
Total RTTT fringe	$0	$0	$32,426	$21,618	$0

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
BI Developer					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	0.8	1.5	1.0	0.0
Total RTTT salary	$0	$53,573	$107,145	$71,430	$0
Total RTTT fringe	$0	$16,213	$32,426	$21,618	$0
Agency Liason					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	2.3	0.0	0.0	0.0
Total RTTT salary	$0	$160,718	$0	$0	$0
Total RTTT fringe	$0	$48,640	$0	$0	$0
Researcher					
Salary/person/year	$71,430	$71,430	$71,430	$71,430	$71,430
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
FTE-years	0.0	0.0	0.0	2.0	2.0
Total RTTT salary	$0	$0	$0	$142,860	$142,860
Total RTTT fringe	$0	$0	$0	$43,235	$43,235

In addition, $6.3MM has been allocated for the IES2 portion of this project over the course of two years. This consists of 1 business analyst, 1 programmer, 1 tech writer, 1 IT support, 1 web dev, 2 BI developers, and 21 agency liaisons

- **FRINGE BENEFITS**

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Fringe Benefits at 30.274% of personnel salary represent a total of $2.3MM across both IES and Race to the Top portions of the system

- **EQUIPMENT**

  The Race to the Top portion of equipment and software is expected to represent 30% of the cost of development personnel ($509K). Hardware includes multiple blade servers for Development, Testing, and Production environments. In addition, network switches, cables, and other necessary information technology infrastructure will be covered.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
DSS Equipment	$0	$83,743	$188,421	$181,443	$55,829

- **SUPPLIES**

  For the IES2 portion of supplies, $2.2MM was allocated towards Business Intelligence software, enclosure hardware support, virtualization software, Licenses for various database software packages, power supply cords, data manipulation software, purchase of any software upgrades and license renewals. Also includes space rental for housing the system.

- **TRAVEL**

  Travel budgeted for the Project Director and Project Manager to travel to Washington DC to the annual two-day meeting with other grantee and IES staff totals $5K each year for $10K total. Note that this is a shared expense with the Enterprise Data Hub and Decision Support System projects.

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9) Georgia Department of Education (DOE) specific projects

	Project name:	DOE specific projects				
	Project number:	9				
	Funding source	RTTT				
	Criteria:	(C)(2), (C)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$0	$0	$0	$0	$0
2	Fringe Benefits	$0	$0	$0	$0	0
3	Travel	$235,417	$135,417	$79,167	$0	450,000
4	Equipment	$610,417	$510,417	$229,167	$0	1,350,000
5	Supplies	$0	$0	$0	$0	0
6	Contractual	$5,220,833	$3,020,833	$1,333,333	$0	9,575,000
7	Training Stipends	$666,667	$416,667	$191,667	$0	1,275,000
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$6,733,333	$4,083,333	$1,833,333	$0	$12,650,000
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)**	**$6,733,333**	**$4,083,333**	**$1,833,333**	**$0**	**$12,650,000**

All Georgia Department of Education technology projects necessary to realize Georgia's Race to the Top vision are included in these costs. There are 13 technology projects identified as necessary for Race to the Top and included as part of the responsibilities of DOE:

1. **Collect and disseminate benchmark data –** Several initiatives will be generating benchmark data. The purpose of this project is to collect the data, normalize it and provide access to it via a secured portal *(Overall)*

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2. **Capture and store performance metrics -** This project is to capture the metrics driven by the principle improvement process. The project will also consolidate metrics and provide online access to them via secured web portals. *(Overall)*

3. **Integrate Common Instructional Technology system-** This project is to integrate a statewide instructional technology systems into existing tools such as GeorgiaStandards.Org, virtual school, DOE website and digital content. *(Overall)*

4. **Design annual surveys -** This project is to provide tools to design and disseminate surveys as well as collect and provide secured access to the results of the surveys. *(Sections B, D, E)*

5. **Update GAVS for Common Core -** This project is to update the courses within the Georgia Virtual School (GAVS) as Georgia adopts common core standards. *(Section B)*

6. **Advanced Search Engine** – The project is to add and advanced search engine to the Georgia Standards website. *(Section B)*

7. **GSO updates** – This project is to update the standards within the GeorgiaStandards.Org website as the State adopts common core. *(Section B)*

8. **Make changes necessary for Teacher Effectiveness Measures (TEM)** – This project will design, develop and implement a system to capture and report on teacher effectiveness measures. This project also includes interfaces to the VAM module as well as a performance-based payment system.*(Section D)*

9. **Capture VAM, DEM, LEM, and TEM Stats –** This project is to capture the metrics driven by the VAM, DEM, LEM and TEM systems. It addition, the project will consolidate measures and provide online access to them via secured web portals. *(Section D)*

10. **LEA Turnaround -** This project will provide for the monitoring of turnaround efforts at LEAs *(Section E)*

11. **Extended Time –** This project will provide the ability to track the additional hours each student will be expected to complete as part of an extended school year/day. *(Section E)*

12. **Graduation Coach Program -** This project will design, develop and implement a system to assist educators in executing and tracking the Graduation Coach program. *(Section E)*

13. **Math Coach Program** - This project will design, develop and implement a system to assist educators in executing and tracking the Math Coach program. *(Section E)*

- **TRAVEL**
  Travel is an estimate based on the amount of remote travel needed to gather business requirements as well as confirmation of the consolidated requirements and system design. Travel costs are $0.50 per mile with average round trips expected to be 60 miles (30 miles each way). The number of trips varies significantly depending on the particularly activity (e.g. TEM changes will require significant requirement gathering at a local level).

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		Year 0	Year 1	Year 2	Year 3	Year 4
		2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
1	Collect and disseminate Benchmark data		$ 25,000	$ 25,000		
2	Capture and store performance metrics					
3	Integrate Common Instructional Technology system		$16,667	$16,667	$16,667	
4	Design Annual surveys					
5	Update GAVS for Common Core					
6	Advanced Search Engine					
7	GSO updates					
8	Teacher Effectiveness Model (TEM)		$62,500	$62,500	$62,500	
9	Capture VAM, DEM, LEM and TEM stats					
10	LEA turnaround		$50,000			
11	Extended time		$50,000			
12	Grad Coach		$15,625	$15,625		
13	Math Coach		$15,625	$15,625		
	Total	$0	$235,417	$135,417	$79,167	$0

- **EQUIPMENT**

  Equipment includes hardware and software and is assumed to be entirely incremental to any existing equipment at the GaDOE. The majority of the hardware is expected to be blade servers for Development, Testing, and Production environments. Miscellaneous hardware will include network switches, cables, development desktops, etc. Equipment costs are driven by the technical complexity of each project. Highly demanding technical projects that require new system builds (making the changes necessary for TEM collection, collecting and disseminating benchmark data, tracking graduation coach program outcomes, and tracking math coach program outcomes) are assumed to have between $150K and $250K of total costs as hardware related. Medium complexity projects not requiring new system builds (monitoring turnaround efforts and tracking how extended time is used at a school-level) are expected to have $50K of total equipment

costs. The State expects integrating a Common Instructional Technology system statewide to be particularly costly in terms of software licensing and has therefore allocated $500K total for that.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
1 Collect and disseminate Benchmark data		$ 125,000	$ 125,000		
2 Capture and store performance metrics					
3 Integrate Common Instructional Technology system		$166,667	$166,667	$166,667	
4 Design Annual surveys					
5 Update GAVS for Common Core					
6 Advanced Search Engine					
7 GSO updates					
8 Teacher Effectiveness Model (TEM)		$62,500	$62,500	$62,500	
9 Capture VAM, DEM, LEM and TEM stats					
10 LEA turnaround		$50,000			
11 Extended time		$50,000			
12 Grad Coach		$78,125	$78,125		
13 Math Coach		$78,125	$78,125		
Total	$0	$610,417	$510,417	$229,167	$0

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- **CONTRACTUAL**

  Since most development is expected to occur only in the first two years, all development costs are assumed to be completed by contract programmers at a rate of $125 per hour. These programmers are expected to hand off application code and documentation to State IT personnel prior to the end of the first year. Additional time for knowledge transition has been included.

	Year 0	Year 1	Year 2	Year 3
	2009/10	**2010/11**	**2011/12**	**2012/13**
1 Collect and disseminate Benchmark data		$ 750,000	$ 750,000	
2 Capture and store performance metrics		$250,000		
3 Integrate Common Instructional Technology system		$83,333	$83,333	$83,333
4 Design Annual surveys		$50,000		
5 Update GAVS for Common Core		$200,000		
6 Advanced Search Engine		$100,000		
7 GSO updates		$250,000		
8 Teacher Effectiveness Model (TEM)		$1,666,667	$1,666,667	$1,666,667
9 Capture VAM, DEM, LEM and TEM stats		$250,000		
10 LEA turnaround		$550,000		
11 Extended time		$550,000		
12 Grad Coach		$468,750	$468,750	
13 Math Coach		$468,750	$468,750	
Total	$0	$5,637,500	$3,437,500	$1,750,000

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- **TRAINING STIPENDS**

The Georgia DOE will adopt the train-the-trainer model where many trainers are trained within each district that can then further train teachers and administrators within that district as well as act as support resources for in-person response. Training costs factor in how much complexity there is in the program functions. Training is expected to occur face-to-face and will occur repeatedly over several years for most tasks to ensure that all processes and changes are adequately instilled and that lessons learned and best practices are disseminated regularly. Training stipends are expected to be $125/day for trainees. Depending on the complexity of the project, training may occur over several days each year:

- **Teacher Effectiveness (most complex)** – 3 days of training annually for approximately 2 to 3 staff per district (varies based on district size)
- **Collecting and disseminating benchmark data, monitoring turnaround efforts, tracking graduate and math coach program outcomes, and understanding extended time usage** -2 days of training for first one to two years after rollout for 2 staff per district
- **Integrating Common Instructional Technology system –** 1 day of training for 3 trainees per district at rollout
- **Updating GAVS for Common Core –** 1 day of training for 2 trainees per district at rollout

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
1 Collect and disseminate Benchmark data		$ 100,000	$ 100,000		
2 Capture and store performance metrics					
3 Integrate Common Instructional Technology system		$66,667	$66,667	$66,667	
4 Design Annual surveys					
5 Update GAVS for Common Core		$50,000			
6 Advanced Search Engine					
7 GSO updates					
8 Teacher Effectiveness Model (TEM)		$125,000	$125,000	$125,000	
9 Capture VAM, DEM, LEM and TEM stats					
10 LEA turnaround		$100,000			
11 Extended time		$100,000			
12 Grad Coach		$62,500	$62,500		
13 Math Coach		$62,500	$62,500		
Total	$0	$666,667	$416,667	$191,667	$0

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10) Professional Standards Committee (PSC) specific projects

	Project name:	PSC specific projects				
	Project number:	10				
	Funding source	RTTT				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$0	$0	$0	$0	$0
2	Fringe Benefits	$0	$0	$0	$0	0
3	Travel	$10,000	$0	$0	$0	10,000
4	Equipment	$150,000	$0	$0	$0	150,000
5	Supplies	$5,000	$0	$0	$0	5,000
6	Contractual	$1,795,000	$0	$0	$0	1,795,000
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$140,000	$0	$0	$0	140,000
9	Total Direct Costs (lines 1-8)	$2,100,000	$0	$0	$0	$2,100,000
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)**	**$2,100,000**	**$0**	**$0**	**$0**	**$2,100,000**

All Professional Standards Committee projects necessary to realize Georgia's Race to the Top vision are included in these costs. There are 3 technology projects identified as necessary for Race to the Top and included as part of the responsibilities of PSC:

1) **Student-teacher assessment linkages** – Development of student-teacher-assessment linkages which are necessary for everything related to TEM scores. This involves significant retooling of PSC internal systems.

2) **Incorporating TEM into certification award and renewal** – Incorporating Teacher Effectiveness Measures into PSC's certification award and renewal program requires a significant retooling / redevelopment effort. This impacts all databases, applications, and the website PSC operates.

3) **Tracking TEM scores back to teacher preparation programs -** Major retooling / redevelopment affecting all preparation program database, application, and website PSC operates. Includes collection of a large number of new data elements (e.g., information on candidates as they enter and progress through the program, student teaching, etc.). Large amount of internal PSC work, but also large changes for program providers in terms of what they have to collect, maintain, and submit to PSC.

- **TRAVEL**

Minimal travel will be required. $10K is expected for development and training-related travel associated with linking teacher performance back to the original teacher preparation program.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
1) Student-teacher assessment linkages					
2) Incorporating TEM into certification award and renewal					
3) Tracking TEM scores back to teacher prep		$10,000			
Total		10,000			

- **EQUIPMENT**

Equipment is primarily development software and hardware for the programmers. Costs are directly related to project complexity. Although there will be some internal system development required at PSC for student-teacher assessment

linkages and adjusting certification award and renewal with TEM, the majority will be related to tracking TEM scores back to teacher preparation programs.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
1) Student-teacher assessment linkages		$25,000			
2) Incorporating TEM into certification award and renewal		$25,000			
3) Tracking TEM scores back to teacher prep		$100,000			
Total		150,000			

- **SUPPLIES**

Supplies are for basic office supplies and amount to $5K across the three projects.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
1) Student-teacher assessment linkages		$1,000			
2) Incorporating TEM into certification award and renewal		$1,000			
3) Tracking TEM scores back to teacher prep		$3,000			
Total		5,000			

- **CONTRACTUAL**

Most PSC project costs can be associated with contract-based programmers. $750K will be allocated to retooling systems to be able to track TEM scores back to teacher preparation. Based on discussions, Georgia's teacher preparation providers (e.g. USG, TCSG, etc.) will also require $195K to help cover development costs for onsite data collection and submission of teacher preparation data to PSC. Developing student-teacher assessment linkages and incorporating TEM into certification award and renewal are expected to be less complex and account for $400K and $450K respectively.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
1) Student-teacher assessment linkages		$400,000			
2) Incorporating TEM into certification award and renewal		$450,000			
3) Tracking TEM scores back to teacher prep		$945,000			
Total		1,795,000			

- **OTHER**

Other costs are linked to the development of training materials and technical documentation.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
1) Student-teacher assessment linkages		$20,000			
2) Incorporating TEM into certification award and renewal		$20,000			
3) Tracking TEM scores back to teacher prep		$100,000			
Total		140,000			

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11) University System of Georgia (USG) specific projects

	Project name:	USG specific projects				
	Project number:	11				
	Funding source	RTTT				
	Criteria:	(C)(2), (C)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$700,501	$700,501	$700,501	$700,501	$2,802,002
2	Fringe Benefits	$211,999	$211,999	$211,999	$211,999	847,998
3	Travel	$0	$0	$0	$0	0
4	Equipment	$650,000	$0	$0	$112,500	762,500
5	Supplies	$0	$0	$0	$0	0
6	Contractual	$0	$0	$0	$0	0
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$30,000	$60,900	$92,727	183,627
9	Total Direct Costs (lines 1-8)	$1,562,500	$942,500	$973,400	$1,117,727	$4,596,127
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)**	**$1,562,500**	**$942,500**	**$973,400**	**$1,117,727**	**$4,596,127**

The State of Georgia RT3 plan is ambitious and pushes each collaborative agency to move extensively beyond its current methods of operation and goals. To meet the new data requirements and allow the University System of Georgia (USG) and its institutions to be full participants, resources are needed that will support and enhance current approaches for USG data management. As one indication of USG's commitment to equal distribution of effective teachers, of the 35 institutions that comprise the USG, 21 now offer high quality teacher preparation programs, with an additional three under development (a total of 24 of the 35 institutions that comprise the USG).

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To manage the data needed in Race to the Top, the University System of Georgia will create an operational data storage system (ODS) that will allow institutions to easily upload and store the data that are needed specifically for this grant. Although some data needed for Race to the Top are currently collected from USG institutions, the process is often slow and time-consuming, and modifications to current data will be needed to meet the unique needs of the SLDS. The following summarizes the financial needs for this critical function.

- **PERSONNEL**
  The labor costs associated with a new collection process from the twenty-one institutions to USG for teacher preparation variables and the ongoing collection, clean-up, and development of reports to meet the outcomes of RT3 totals $912.5K annually. These employees will be new to the organization and directly responsible for meeting the needs of the RT3 measures. It is believed with the creation of the LDS that USG will need these employees to address future expectations and the anticipated growth in reporting requests. Meeting the deliverables for the duration of the grant the personnel cost would be $2.8MM over four years including the following positions:

  Project Manager (1 FTE)
  Business Analysts (2 FTE)
  Developers (2 FTE)
  Technical Writer (1 FTE)
  Report Developers (3 FTE)
  Researcher (1 FTE)

- **FRINGE BENEFITS**
  Total fringe represents $0.85MM (30.264% of total salary costs of $2.8MM)

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- **EQUIPMENT**

  The capital cost estimates include all equipment considered necessary to meet the outcomes associated with the RT3 grant application. This equipment will ensure USG's ability to deliver the necessary components to complete the effectiveness measures and provide data to the statewide longitudinal data system. Items included in the capital cost are a three blade server, 50 terabytes of memory, and reporting software, to be determined later. The total capital cost required is $650,000. Once the initial resources are met the system can expect maintenance costs. Server maintenance costs are estimated at 25 percent of the server value ($112,500 annually). The server comes with prepaid maintenance for 3 years, therefore an additional cost of $112,500 will be incurred in year 4.

Category	Cost
Three blade server with 50 TB memory	$450,000
Reporting Software	$200,000
Total	$650,000

- **OTHER**

  It is expected with forecasted economic improvement that inflation will rise between 3% and 4%. This would amount to $30,000 more need in year 2, $60,900 in year 3, and $92,727 for year 4. The total amount for salary increases would be $183,627.

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12) Technical College System of Georgia (TCSG) specific projects

	Project name:	TCSG specific projects				
	Project number:	12				
	Funding source	RTTT				
	Criteria:	(C)(2), (C)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$422,219	$422,219	$422,219	$0	$1,266,658
2	Fringe Benefits	$127,781	$127,781	$127,781	$0	383,342
3	Travel	$5,833	$5,833	$5,833	$0	17,500
4	Equipment	$26,167	$26,167	$26,167	$0	78,500
5	Supplies	$0	$0	$0	$0	0
6	Contractual	$0	$0	$0	$0	0
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$582,000	$582,000	$582,000	$0	$1,746,000
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)**	**$582,000**	**$582,000**	**$582,000**	**$0**	**$1,746,000**

The Technical College System of Georgia (TCSG) requests funding support to meet the challenges and expectations of the Race to the Top (RT3) initiative. RT3 will have a significant data collection and reporting impact on each agency supporting the Statewide Longitudinal Data System (SLDS) and RT3. For TCSG to fulfill its obligations to the SLDS and RT3, additional resources are needed as described below. The total TCSG request is: $1,746,000.

Collection and Reporting of Teacher Prep Data: TCSG and the Georgia Professional Standards Commission (PSC) are currently in the process of developing a Teacher Preparation Certification program that will be implemented by TCSG. This will constitute an entirely new data collection and reporting process that will feed teacher prep data to the SLDS. Data will originate in

college-level student information systems, will be extracted from those systems and pushed into the TCSG data warehouse, and will then be pushed into the SLDS. This will involve the identification of data elements, business rules, data input and collection processes, validation, and reporting. Resources currently do not exist to fulfill this need.

- **PERSONNEL**
  TCSG requests funding for five (5) additional full time employees to meet the data collection and reporting needs of RT3 as they pertain to teacher preparation and the expansion of scope beyond those items previously identified by the IES grant proposal. Those employees would be one (1) full time position each as follows for the 3-year life of the grant: Project Manager, Business Analyst, Database Programmer, Web Developer, and Business Intelligence Developer. Total cost of five (5) staff for three (3) years at $110,000 per year: $1,650,000. This includes anticipated mandatory increases due to healthcare costs, inflation, etc. as well as fringe benefits. Isolated personnel benefits would be $1.27MM.

- **FRINGE BENEFITS**
  Fringe benefits represent 30.264% of personnel costs. Fringe benefits' therefore represent $383K of cost.

- **TRAVEL**
  Staff would be required to conduct training statewide and would also participate in related conferences, peer meetings, and RT3 activities. Estimated travel costs for these activities over the 3 year period would be: $17,500.

- **EQUIPMENT**
  Office equipment and supply needs for these five (5) individuals would require a total of $8,500. This is designed to cover basic computer, printer, and office supply needs. Additionally, to expand and enhance technical assistance to the colleges and development of a Decision Support System which will facilitate the timely and accurate reporting of teacher prep data, TCSG requests an additional $70,000 to upgrade its Business Intelligence software. This results in a total equipment/supply cost of $78,500.

Appendix A30: Georgia RT3 Budget Narrative

GREAT TEACHERS AND LEADERS

13) Value Added Growth Model

	Project name:	Value Added Growth Model				
	Project number:	13				
	Funding source	RTTT				
	Criteria:	(D)(2)(i),				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$3,638,433	$4,935,986	$5,653,428	$4,830,144	$19,057,990
7	Training Stipends	$0	$0	$0	$0	$0
8	Other	$0	$0	$0	$0	$0
9	Total Direct Costs (lines 1-8)	$3,638,433	$4,935,986	$5,653,428	$4,830,144	$19,057,990
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)**	**$3,638,433**	**$4,935,986**	**$5,653,428**	**$4,830,144**	**$19,057,990**

- **CONTRACTUAL**

  The Value Added Growth Model will be outsourced to an external vendor. All cost figures are driven by the number of students and teachers included.

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- **Student participation:** The number of students will be ramped up over a 4 year period with 506,831 students (76.9% of all K12 students in the 26 participating LEAs) evaluated in the first year of the pilot and 1,250,573 (76.9% of all 1,625,745 Georgia K12 students) evaluated by the fourth year of the pilot.
- **Teacher participation:** The number of teachers will be ramped up over a 4 year period with 13,651 teachers (30% of K12 teachers in the 26 participating LEAs) evaluated in the first year of the pilot and 35,766 (30% of all 119,221 Georgia K12 teachers) evaluated by the fourth year of the pilot.

Costs come from one of four key activities described below:

1) **Implement value-added analysis at the district, school, grade and teacher levels**

   Value-added analysis is the most comprehensive, statistically-significant method for connecting teacher practice to student growth. To gain an overall snapshot of each child's academic performance, the state of Georgia needs to measure the individual progress of children from year-to-year. Value-added analysis brings new and critically important diagnostic information to allow districts to be strategic and focused in their instructional decision-making. By connecting student progress data and other data sources and thoughtfully engaging educators in focused planning and differentiated professional development, teachers will accelerate their students' progress rates. School districts that use these measures and processes are achieving strong results. We need to make sure that all school districts have access to such data to inform their practices. Additionally, the ability to provide diagnostic reporting beyond the computation of a value-added measure alone is important for informing and improving practice.

   To truly drive change in education reform, Georgia will provide classroom-level value-added information to every educator statewide. Educators must be provided the information, practices, structures and support they need to make educational improvement a matter of course—providing the highest-quality and most-relevant academic opportunities to for all students.

Appendix A30: Georgia RT3 Budget Narrative

2) **Establish a process to accurately determine student-teacher attribution**
As accountability and improvement measures of teachers are implemented, it is critically important to accurately capture the attribution or linkage between teachers and students. Currently, state- and district-based information systems have significant data quality issues. At this time, these data systems do not accurately link students to their teachers. The state of Georgia will implement a process that allows educators to verify who they taught over the course of the school year. Without this linkage process, the classroom-level value-added analysis provided to teachers would have little accuracy, precision or credibility.

3) **Provide multiple modes and channels of professional development**
If value-added information is to serve as a critical lever for educational improvement, educators and school leaders, must be trained to understand the metric and to use it in productive ways. For this training to be effective, educators must believe: 1) that it is worth their time and effort, and 2) that they can do what is required to improve. Satisfying these requirements demands: 1) multiple modes and channels through which educators can learn the essential information; and 2) leaders must be trained to understand the information and lead educational change.

Establish and prepare network of experts: The goal for the value-added professional development component is to provide multi-modal training for regional and district representatives during the first three years of the project. Starting with the 26 pilot districts in year one, a network of knowledgeable, well-prepared, Regional Value-Added Specialists and District Value-Added Specialists representing the appropriate regions of the state will be developed. With these specialists in place, there are resources to deliver face-to-face value-added training anywhere in the state. In year one, the task will be to train and support the identified pilot districts to use and interpret the value-added data.

In years two and three, expertise will be developed within all regions and appropriate school districts. It will be the responsibility of the regional representatives to extend this knowledge and understanding to the districts they represent. By the end of year four, all regions and all school districts will be prepared to use the value-added data.

Provide learning resources and support: Technical support will be provided during the rollout of the value-added training via e-mail, phone, Web and on site. Each trainer and each district will receive a Value-Added Toolkit with

materials and curriculum to assist them in training others. In addition, online value-added courses will be available to all Georgia educators. Courses can be organized into three learning paths (district, school and teacher levels) as well as additional information for those who want a deeper knowledge of the metric. Online learning will be a key component of the training plan because it will allow the state to reach the maximum number of educators 24–7 adjusting to their learning needs.

4) **Manage change, communicate and engage all stakeholders**

In times of change, superintendents, principals, guidance counselors and teacher leaders must learn to think and lead differently. It is one thing to understand the information provided in a value-added report, but it is quite another to use this information productively. There is a strong need for superintendents, principals and instructional leaders to learn to understand how to put the necessary structures in place to support and oversee the changes that are necessary. Ultimately, leaders need to learn how to: 1) appropriately prioritize when and how this information will be used; 2) provide the recognition and reward structures that will institutionalize the use of value-added information; and 3) provide the necessary communications so that everyone knows what they are supposed to be doing and when they are supposed to do it.

Prioritize when and how to use value-added information: Value-added information is the best indicator of how district, school and teacher practices translate into student learning. If value-added information is to be used by educators, it must be appropriately highlighted in all of the conversations that leaders have with their staff. Until they stress the use of this information, nobody else will.

Communicate, communicate, communicate: One of the most important, but most overlooked aspects of leveraging value-added information is the use of various communications channels. All district stakeholders need to understand what value-added information is and how it can improve student learning. Communication is critical because, through it , staff knows and understands the ways in which they need to alter their practices. This communication must be direct and directive, but leaders must also be supportive and understanding. This magnitude of change is difficult. Leaders must be able to communicate clearly the expectations associated with their change efforts and the support they will provide to make the change happen. In short, change must be managed and formal communications are one of the best ways to manage it.

Appendix A30: Georgia RT3 Budget Narrative

Most change processes fail, not because the idea is bad or even unpalatable, but because implementation never penetrates to the level necessary to institutionalize the change. Systems must be put in place to enable leaders to know if new behaviors, values and dispositions are taking root, and there must be channels through which the appropriate behaviors can be motivated.

To navigate through change-management issues and build awareness, understanding and support for the use of value-added analysis as a powerful educational-improvement strategy among all key stakeholders, the state of Georgia will develop and implement a strategic communications plan. This plan will include goals, strategies and recommended action steps that align with and help to drive implementation of the tiered, four-year rollout across the state.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
VAM					
1) Implement value-added analysis at the district, school, grade and teacher levels					
Cost/teacher		$18.00	$16.00	$12.00	$12.00
# of evaluated teachers in pilot		13,651	21,023	28,395	35,766
% of evaluated teachers		*30.0%*	*30.0%*	*30.0%*	*30.0%*
Cost/tested student		$2.50	$2.00	$2.00	$1.80
# of tested students in pilot		506,831	754,745	1,002,659	1,250,573
% of students that can be tested		*76.9%*	*76.9%*	*76.9%*	*76.9%*
Total		$1,512,793	$1,845,853	$2,346,052	$2,680,227
2) Establish a process to accurately determine student-teacher attribution					
Cost/student		$1.50	$1.00	$0.75	$0.60
Total cost attributed to students		$760,246	$754,745	$751,994	$750,344
Linkage and data collection			$375,000		
3) Provide multiple modes and channels of professional development					
One time		$87,000	$87,000	$87,000	$87,000
Per student		$2.00	$2.00	$2.00	$0.80
Total		$1,100,662	$1,596,490	$2,092,318	$1,087,458
4) Manage change, communicate and engage all stakeholders					
One time		$62,000	$62,000	$62,000	$62,000
Per student		$0.40	$0.40	$0.40	$0.20
Total		$264,732	$363,898	$463,064	$312,115
Total VAM		**$3,638,433**	**$4,935,986**	**$5,653,428**	**$4,830,144**

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14) Development, testing and validation of other quantitative measures

	Project name:	Development, testing and validation of other quantitative measures				
	Project number:	14				
	Funding source	RTTT				
	Criteria:	(D)(2)(i),				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$134,343	$134,343	$134,343	$134,343	$537,370
2	Fringe Benefits	$40,657	$40,657	$40,657	$40,657	$162,630
3	Travel	$0	$0	$0	$0	$0
4	Equipment	$0	$0	$0	$0	$0
5	Supplies	$0	$0	$0	$0	$0
6	Contractual	$565,000	$470,000	$220,000	$100,000	$1,355,000
7	Training Stipends	$0	$0	$0	$0	$0
8	Other	$0	$0	$0	$0	$0
9	Total Direct Costs (lines 1-8)	$740,000	$645,000	$395,000	$275,000	$2,055,000
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)**	**$740,000**	**$645,000**	**$395,000**	**$275,000**	**$2,055,000**

- **PERSONNEL**

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Due to the dramatic changes to the certification and compensation system, PSC requires personnel to assist with implementation of all new measures within their internal systems. Two staff members will be required: a certification staff member ($54K) and an education prep staff member ($81K).

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
PSC certification rules upgrades					
Salary for certification staff member		$53,737	$53,737	$53,737	$53,737
Salary for Ed Prep staff member		$80,606	$80,606	$80,606	$80,606
Fringe Benefits	30.3%	30.3%	30.3%	30.3%	30.3%
Total Salary		$134,343	$134,343	$134,343	$134,343
Total Fringe Benefits		$40,657	$40,657	$40,657	$40,657

- **FRINGE BENEFITS**
  Fringe benefits will be attributed to both the certification and education prep staff member at a rate of 30.264% of salary. This totals $40,657 annually ($162,630 over 4 years).

- **CONTRACTUAL**
  Parent, student, peer (teacher) and climate surveys used as input into Teacher Effectiveness Measures (TEM) and other effectiveness measures (see Section D2 in application) will be developed. The majority of development costs occur in the first year ($300K) while the ongoing costs of $100K annually are to administer the survey in subsequent years. These new quantitative measures will also require independent validation. The cost to hire an external firm to validate is expected to be $250K in the 2011-2012 (year 2 of the grant).

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Teacher Advisory Committees will also be developed. These committees will consist of measurement experts and teachers to assist in development of other quantitative measures. The total cost of TACs will be $480K over a period of three years. After year 3, the RT3 TAC will be folded into existing TACs within the Georgia DOE.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Finalize evaluation tool					
Design and administer surveys		$300,000	$100,000	$100,000	$100,000
Tool validation and field testing		$0	$250,000	$0	$0
Teacher Advisory Committee					
1) Survey development					
Cost per meeting		$60,000			
# of meetings		4			
2) Guide implementation					
Cost per meeting			$60,000		
# of meetings			2		
3) Validity and reliability of results					
Cost per meeting				$60,000	
# of meetings				2	
Total TAC	$ -	$ 240,000	$ 120,000	$ 120,000	$ -
IT development costs		$25,000			
Total Contractual costs	**$ -**	**$ 565,000**	**$ 470,000**	**$ 220,000**	**$ 100,000**

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15) Evaluation instrument and validation

	Project name:	Evaluation instrument and validation				
	Project number:	15				
	Funding source	RTTT				
	Criteria:	(D)(2)(i), (D)(2)(ii)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$440,000	$0	$0	$0	$440,000
7	Training Stipends	$0	$0	$0	$0	$0
8	Other	$0	$0	$0	$0	$0
9	Total Direct Costs (lines 1-8)	$440,000	$0	$0	$0	$440,000
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)**	**$440,000**	**$0**	**$0**	**$0**	**$440,000**

- **CONTRACTUAL**

An outside vendor will hired to validate the final teacher and leader evaluation rubrics. Validations will be performed on Georgia's CLASS keys and on Georgia's Leader keys for a total of 2 evaluations. Each evaluation is expected to cost $220K and will occur in the first year of the grant.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Evaluation validation		$440,000	$0	$0	$0

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16) Evaluation training and evaluation process feedback

	Project name:	Evaluation training and Evaluation process feedback				
	Project number:	16				
	Funding source	RTTT				
	Criteria:	(D)(2)(i), (D)(2)(ii)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$510,000	$610,000	$535,000	$535,000	$2,190,000
2	Fringe Benefits	$154,346	$154,346	$154,346	$154,346	$617,386
3	Travel	$0	$97,200	$33,300	$33,300	$163,800
4	Equipment	$0	$0	$0	$0	$0
5	Supplies	$0	$400,338	$99,831	$99,831	$600,000
6	Contractual	$221,449	$221,449	$221,449	$221,449	$885,795
7	Training Stipends	$0	$978,500	$325,250	$325,250	$1,629,000
8	Other	$0	$995,167	$340,917	$340,917	$1,677,000
9	Total Direct Costs (lines 1-8)	$885,795	$3,456,999	$1,710,093	$1,710,093	$7,762,981
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)**	**$885,795**	**$3,456,999**	**$1,710,093**	**$1,710,093**	**$7,762,981**

- **PERSONNEL**

  Six full time trainers will be brought on board to assist with the roll out of new evaluation measures. Once the new evaluation tools have been rolled out, annual teacher and administrator surveys will be launched to capture feedback on both the evaluation process and the tools themselves. The initial development and launch of the survey will be $100K in year 2 followed by an annual cost of $25K. Total personnel costs are expected to be $2.19MM.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Full - Time Training staff					
Salary/specialist		$85,000	$85,000	$85,000	$85,000
% of year worked		*100.0%*	*100.0%*	*100.0%*	*100.0%*
Fringe assumption		*30.3%*	*30.3%*	*30.3%*	*30.3%*
# of additional specialists		6	6	6	6
Total salary		$510,000	$510,000	$510,000	$510,000
Total fringe		$154,346	$154,346	$154,346	$154,346
Annual survey			$100,000	$25,000	$25,000
Total Personnel		**$510,000**	**$610,000**	**$535,000**	**$535,000**

- **FRINGE BENEFITS**
  Fringe Benefits are assumed to be 30.264% of the total salary costs of personnel. Total fringe benefits are expected to be $617,386 on a total personnel salary of $2.19MM.

- **TRAVEL**
  Training sessions on the new evaluation tool will be held for all principals and administrators. Travel costs for trainers will be covered at a rate of $150 per trainer day. Total travel costs for 1,092 trainer days are expected to be $163,800 over 3 years.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Trainer travel					
Total trainer days			648	222	222
Cost per trainer per day			$150	$150	$150
Total			**$97,200**	**$33,300**	**$33,300**

- **SUPPLIES**

  Printing costs are expected to be $500K over 3 years starting in year 2 of the grant. Materials will be printed based on the numbers of schools able to participate. The first set of schools will be ready in 2011-2012 (1305 total schools) with 434 rolling on in subsequent years. The printed materials will be updated and made available electronically as well at a one-time cost of $100K in year 2.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Other printing					
Electronic updates			$ 100,000		
Printing cost			$500,000		
Total			**$400,338**	**$99,831**	**$99,831**

- **CONTRACTUAL**

  To ensure adequate coverage, twelve additional part-time trainers (actual teachers) will also augment the team for 2 months out of each year. The annual base salary for each position is $85,000. Fringe benefits will also be part of the contract at a rate of 30.264% and an annual total expected cost of $51,449.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Contracted Training staff					
Salary/specialist		$85,000	$85,000	$85,000	$85,000
% of year worked		*16.7%*	*16.7%*	*16.7%*	*16.7%*
Fringe assumption		*30.3%*	*30.3%*	*30.3%*	*30.3%*
# of additional specialists		12	12	12	12
Total salary		$170,000	$170,000	$170,000	$170,000
Total fringe		$51,449	$51,449	$51,449	$51,449
Total Contractual		**$221,449**	**$221,449**	**$221,449**	**$221,449**

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- **TRAINING STIPENDS**

  4,344 teachers (2 per Georgia school) will receive 3 days of training and receive a stipend of $125 per day. Total training stipends for teacher evaluation related trainings for teachers is expected to be $1,629,000.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Teacher and principal eval training					
Stipends					
Days of training			3	3	3
# of teachers trained			2,609	867	867
Teacher evaluators/school			2	2	2
Daily stipend/teacher			$125	$125	$125
Total stipends			**$978,500**	**$325,250**	**$325,250**

- **OTHER**

  Total daily expenses for principals and administrators while in training are expected to be $42 per day and total $1,131,000. This covers per diems for 2 administrators per school and 2 representatives per district (4,704 total admin and principal trainees). Facility costs to run all training sessions for 3 days each at $1,000 per day are expected to be $459,000 in total.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Trainee Expenses					
Expense/trainee			$42	$42	$42
# of principals & admin in pilot			2,760	972	972
Admin evaluators/school			2	2	2
Trainers/district			2	2	2
Teacher expenses			$326,167	$108,417	$108,417
Total expenses			$671,167	$229,917	$229,917
Facilities					
Total number of trainers			22	22	22
2 trainers/session			2	2	2
50 trainees/session			50	50	50
Trainees at any one give time			550	550	550
Sessions needed			108	37	37
3 days of training each			3	3	3
Cost of room/day			$1,000	$1,000	$1,000
Total			$324,000	$111,000	$111,000
Total Other costs		**$ -**	**$ 995,167**	**$ 340,917**	**$ 340,917**

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17) Performance-based Pay for Teachers

	Project name:	Performance-based Pay for Teachers				
	Project number:	17				
	Funding source	RTTT				
	Criteria:	(D)(2)(iv)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$0	$0	$0	$0	$0
7	Training Stipends	$0	$0	$0	$0	$0
8	Other	$0	$0	$0	$0	$0
9	Total Direct Costs (lines 1-8)	$0	$0	$0	$0	$0
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	$4,000,000	$4,000,000
13	**Total Costs (lines 9-12)**	**$0**	**$0**	**$0**	**$4,000,000**	**$4,000,000**

- **SUPPLEMENTAL FUNDING FOR PARTICIPATING LEAS**
  Given budgeting assumptions used to develop the performance-based compensation model, Georgia anticipates that RT3 funds that flow directly to participating LEAs may not be sufficient to cover all RT3 reforms including performance-based compensation at the LEA level. A $4MM funding pool will be set aside in year 4 and distributed to participating LEAs based on criteria that will be established by the State. For more information on the performance-pay model please see *Appendix D12: Performance-based compensation guidelines.*

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18) Performance-based Pay for Principals and Assistant Principals

	Project name:	Performance-based Pay for Principals and Assistant Principals				
	Project number:	18				
	Funding source	RTTT				
	Criteria:	(D)(2)(iv)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$0	$0	$4,566,333	$6,084,167	$10,650,500
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	$0	$0	$0	$0	$0
7	Training Stipends	$0	$0	$0	$0	$0
8	Other	$0	$0	$0	$0	$0
9	Total Direct Costs (lines 1-8)	$0	$0	$4,566,333	$6,084,167	$10,650,500
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)**	**$0**	**$0**	**$4,566,333**	**$6,084,167**	**$10,650,500**

- **PERSONNEL**

  Once effectiveness measures are implemented in year 3 (2011-2012), Principals in participating LEAs will be eligible for annual bonuses depending on their effectiveness measures (LEMs). The State expects that these bonuses will amount to $10,650,500 for Principals across the 2 years. For more information on bonus structure please refer to Appendix D12.

Appendix A30: Georgia RT3 Budget Narrative

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Principal Performance Bonus					
Participating Principals		0	0	1305	1738
Tier 1 Bonuses		$ -	$ -	$ 1,630,833	$ 2,172,917
Tier 2 Bonuses		$ -	$ -	$ 1,957,000	$ 2,607,500
Tier 3 Bonuses		$ -	$ -	$ 978,500	$ 1,303,750
Total Principal Bonuses		$ -	$ -	$ 4,566,333	$ 6,084,167

Appendix A30: Georgia RT3 Budget Narrative

19) Equitable distribution relocation incentives

	Project name:	Equitable distribution relocation incentives				
	Project number:	19				
	Funding source	RTTT				
	Criteria:	(D)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$0	$800,000	$1,600,000	$2,400,000	$4,800,000
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	$0	$0	$0	$0	$0
7	Training Stipends	$0	$0	$0	$0	$0
8	Other	$0	$0	$0	$0	$0
9	Total Direct Costs (lines 1-8)	$0	$800,000	$1,600,000	$2,400,000	$4,800,000
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)**	**$0**	**$800,000**	**$1,600,000**	**$2,400,000**	**$4,800,000**

- **PERSONNEL**

  Signing bonuses will be paid to highly-effective teachers moving to shortage areas from other districts. This is intended to encourage the equitable distribution of talented teachers into both rural geographic regions and high-need subject areas. Bonuses are expected to be in the amount of $50K per teacher and vest over a three year period. The State assumes that 10% of all teachers in the high-need districts will be newly hired each year. 50% of those may move from other districts and 32% of those are expected to be within shortage areas. In total, the State expects $4.8MM in relocation bonuses to be distributed over 3 years starting in year 2 with a cap of $5MM total.

Appendix A30: Georgia RT3 Budget Narrative

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Tax-Free Teacher Bonuses					
# Participating Schools		50	50	50	50
Avg # Teachers / School		55	55	55	55
New Teacher Hires as % of Total Teachers		10%	10%	10%	10%
Implied # New Teachers per School		6	6	6	6
Total New Teachers per year		300	300	300	300
% in shortage areas		32%	32%	32%	32%
% move from other districts		50%	50%	50%	50%
Total # potential movers		48	48	48	48
Bonus amount per teacher		$ 50,000	$ 50,000	$ 50,000	$ 50,000
Annual bonus amount per teacher (3 yr vest)		$ 16,667	$ 16,667	$ 16,667	$ 16,667
Total cost (3 yr vesting)			**$ 800,000**	**$ 1,600,000**	**$ 2,400,000**

Appendix A30: Georgia RT3 Budget Narrative

20) Increasing supply of effective science and math teachers - UTeach

	Project name:	Increasing supply of effective science and math teachers				
	Project number:	20				
	Funding source	RTTT				
	Criteria:	(D)(3)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$518,750	$1,162,500	$1,612,500	$2,643,750	$5,937,500
7	Training Stipends	$0	$0	$0	$0	$0
8	Other	$0	$0	$0	$0	$0
9	Total Direct Costs (lines 1-8)	$518,750	$1,162,500	$1,612,500	$2,643,750	$5,937,500
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)**	**$518,750**	**$1,162,500**	**$1,612,500**	**$2,643,750**	**$5,937,500**

- **CONTRACTUAL**
  The State intends to partner with UTeach to strengthen the pipeline of math and science teachers from higher education institutions. Three university partnerships are currently budgeted for a total cost of $5.9MM.

Appendix A30: Georgia RT3 Budget Narrative

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Uteach					
Site 1		$ 75,000	$ 250,000	$ 400,000	$ 675,000
Site 2		$ 75,000	$ 250,000	$ 400,000	$ 675,000
Site 3		$ 75,000	$ 250,000	$ 400,000	$ 675,000
Univ Awareness funding		$ 37,500	$ -	$ -	$ -
UTeach Institute, 3 universities		$ 256,250	$ 412,500	$ 412,500	$ 618,750
Total Uteach		$ 518,750	$ 1,162,500	$ 1,612,500	$ 2,643,750

Appendix A30: Georgia RT3 Budget Narrative

21) Focused professional development for teachers in Math and Science – CEISMC (includes development and delivery of courses to students as well)

	Project name:	Focused professional development for teachers in Math and Science				
	Project number:	21				
	Funding source	RTTT				
	Criteria:	(D)(5), STEM				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$1,779,020	$1,998,424	$2,138,196	$1,584,361	$7,500,000
7	Training Stipends	$0	$0	$0	$0	$0
8	Other	$0	$0	$0	$0	$0
9	Total Direct Costs (lines 1-8)	$1,779,020	$1,998,424	$2,138,196	$1,584,361	$7,500,000
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)**	**$1,779,020**	**$1,998,424**	**$2,138,196**	**$1,584,361**	**$7,500,000**

- **CONTRACTUAL**
  The State intends to partner with CEISMC to provide further professional development of existing math and science teachers.

Appendix A30: Georgia RT3 Budget Narrative

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
CEISMC					
Overall Program Management					
Personnel & Fringe		$ 248,756	$ 256,219	$ 263,906	$ 271,823
Other		$ 17,722	$ 17,722	$ 17,722	$ 17,722
Distance Learning Support					
Personnel & Fringe		$ 127,378	$ 130,784	$ 134,292	$ 137,906
Other		$ 46,698	$ 22,684	$ 31,900	$ 36,508
Teacher Professional Development					
Personnel & Fringe		$ 246,449	$ 310,885	$ 378,966	$ 390,335
Other		$ 29,020	$ 62,914	$ 94,814	$ 110,763
Distance Calculus Expansion					
Personnel & Fringe		$ 60,920	$ 62,748	$ 64,630	$ 66,569
Other		$ 28,451	$ 28,451	$ 28,451	$ 28,451
Middle School STEM Integration and Pre-engineering					
Personnel & Fringe		$ 44,305	$ 45,635	$ 47,004	$ 48,414
Other		$ 558,248	$ 569,324	$ 569,324	$ 15,507
Graduate Teacher Fellows Program					
Personnel & Fringe		$ 66,458	$ 68,452	$ 70,505	$ 72,621
Other		$ 4,431	$ 101,147	$ 101,147	$ 101,147
GIFT					
Personnel & Fringe		$ 44,305	$ 45,635	$ 47,004	$ 48,414
Other		$ 94,149	$ 94,149	$ 94,149	$ 94,149
Total Direct Costs to RT3		$ 1,617,291	$ 1,816,749	$ 1,943,814	$ 1,440,328
Indirect Costs (@10%) to RT3		$ 161,729	$ 181,675	$ 194,381	$ 144,033
Total CEISMC Costs		**$ 1,779,020**	**$ 1,998,424**	**$ 2,138,196**	**$ 1,584,361**

Appendix A30: Georgia RT3 Budget Narrative

22) Sharing of best practices – Summer Leadership Academy

	Project name:	Sharing of best practices				
	Project number:	22				
	Funding source	RTTT				
	Criteria:	(D)(5), (E)(2)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$0	$0	$0	$0	$0
7	Training Stipends	$560,000	$560,000	$560,000	$560,000	$2,240,000
8	Other	$0	$0	$0	$0	$0
9	Total Direct Costs (lines 1-8)	$560,000	$560,000	$560,000	$560,000	$2,240,000
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)**	**$560,000**	**$560,000**	**$560,000**	**$560,000**	**$2,240,000**

- **TRAINING STIPENDS**

  Each summer, the State will invite teams of high-potential teachers and administrators from low achieving schools to a multi-day Summer Leadership Academy to further their professional development and share best practices. The $2.2MM requested from RT3 will supplement the existing Summer Leadership Academy funds which have historically been used on approximately 15 low achieving schools per year. The State expects that up to 320 additional participants (40 schools with 8 attendees per school) could go through this valuable experience annually.

Appendix A30: Georgia RT3 Budget Narrative

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Summer Leadership Academy					
Number of schools participating		40	40	40	40
Number of participants/school		8	8	8	8
Cost per participant		$ 1,750	$1,750	$1,750	$1,750
Total		**$ 560,000**	**$ 560,000**	**$ 560,000**	**$ 560,000**

23) Quality Plus Leadership Academy (Q+)

	Project name:	Quality Plus Leadership Academy (Q+)				
	Project number:	23				
	Funding source	RTTT				
	Criteria:	0				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$186,661	$186,661	$186,661	$0	$559,983
2	Fringe Benefits	$48,294	$48,294	$48,294	$0	$144,882
3	Travel	$6,896	$6,896	$6,896	$0	$20,688
4	Equipment	$85,400	$85,400	$85,400	$0	$256,200
5	Supplies	$22,020	$22,020	$22,020	$0	$66,060
6	Contractual	$30,800	$30,800	$30,800	$0	$92,400
7	Training Stipends	$60,000	$60,000	$60,000	$0	$180,000
8	Other	$0	$0	$0	$0	$0
9	Total Direct Costs (lines 1-8)	$440,071	$440,071	$440,071	$0	$1,320,213
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)**	**$440,071**	**$440,071**	**$440,071**	**$0**	**$1,320,213**

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Gwinnett County School's leadership development program, the Quality Plus Leadership Academy (Q+) encompasses both an Aspiring Leaders Program (for teachers who want to become school leaders) and an Aspiring Principals Program (for assistant principals who strive to become principals). Q+ includes a research-based curriculum, a 60-day residency component, and mentoring/coaching supports built in for two years. Gwinnett will scale the Academy to four other RT3 districts, which are large enough to have some internal capacity to implement aspects of the Academy, through its federal I3 application, by administering some of the program's content modules to these other systems, both in-person and online. Those four districts will provide additional, LEA-specific training. Gwinnett will also expand the Academy to two more relatively large RT3 districts (impacting approximately 50,000 more students) with $1.3MM in Race to the Top funds.

- **PERSONNEL**
  Two Leader Mentors ($140K each at 50% allocation) and two Administrative Assistants ($47K each at 50% allocation) will be hired for 3 years at a total cost of $560K.

- **FRINGE BENEFITS**
  Fringe benefits are estimated to be 26% for a total of $145K over the 3 years.

- **TRAVEL**
  A small amount for travel, just under $7K annually, has been allocated.

- **EQUIPMENT**
  $5.2K will be spent on computers at the two expansion sites. An additional $75K will be spent on webcasting equipment. These are annual costs including maintenance and upkeep.

- **SUPPLIES**
  Office supplies, postage, training supplies, copying, monitors and other materials is expected to cost $22K annually

- **CONTRACTUAL**
  Web hosting, web site development and maintenance, and site evaluations are expected to cost $30,800 annually.

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- **TRAINING STIPENDS**
  Training stipends will be provided for 40 participants at $100 per day for 15 days. The expected annual cost is $60K.

Appendix A30: Georgia RT3 Budget Narrative

TURNING AROUND LOWEST-ACHIEVING SCHOOLS

24) Teach For America

	Project name:	Teach For America				
	Project number:	24				
	Funding source	RTTT				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$2,600,000	$3,500,000	$4,500,000	$5,000,000	15,600,000
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$2,600,000	$3,500,000	$4,500,000	$5,000,000	$15,600,000
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)**	**$2,600,000**	**$3,500,000**	**$4,500,000**	**$5,000,000**	**$15,600,000**

- **CONTRACTUAL**

  The Teach For America partnership aims to increase the pipeline of available high-quality teachers in the greater Atlanta area. In particular, it is focused on expansion within areas where TFA already has substantial presence The addition of $15.6MM in Race to the Top funding would develop 950 incremental corps members over the course of 4 years (125 in

2010-2011 growing to 300 by 2013-2014) with 300 corps members being developed each year thereafter, meeting the human capital needs for turn-around schools and feeder patterns while maintaining TFA's strong core impact.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
TFA cost		$2,600,000	$3,500,000	$4,500,000	$5,000,000

25) The New Teacher Project

	Project name:	The New Teacher Project				
	Project number:	25				
	Funding source	RTTT				
	Criteria:	(D)(3), (E)(2)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$3,200,101	$2,801,246	$2,874,258	$2,874,258	11,749,863
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$3,200,101	$2,801,246	$2,874,258	$2,874,258	$11,749,863
10	Indirect Costs	$0	$0	$0	$0	0
11	Funding for Involved LEAs	$0	$0	$0	$0	0

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12	Supplemental Funding for Participating LEAs	$0	$0	$0	$0	0
13	**Total Costs (lines 9-12)**	**$3,200,101**	**$2,801,246**	**$2,874,258**	**$2,874,258**	**$11,749,863**

- **CONTRACTUAL**

  The New Teachers Project partnership aims to increase the pipeline of available high-quality teachers in Georgia. In particular, it is focused on developing new teachers at a variety of regional locations around the State. While the program is expected to cost $11,749,863 over a four year period, $1.89MM will be offset by participant tuition.

  The four proposed sites and annual teachers developed are as follows:

  - **Augusta** – 55 teachers annually
  - **Columbus –** 60 teachers annually
  - **Albany –** 20 teachers annually
  - **Savannah** – 40 teachers annually
  - **Atlanta metropolitan area** – 100 teachers annually

  This represents a total of 275 teachers developed annually or 1100 teachers developed over the course of 4 years.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
TNTP cost					
Site 1 (35-55) Augusta		$630,927	$705,677	$727,650	$727,650
Site 2 (40-60) Columbus		$594,604	$671,484	$692,445	$692,445
Site 3 (10-20) Albany		$338,108	$363,944	$375,560	$375,560
Site 4 (20-40) Savannah		$536,462	$590,141	$608,603	$608,603
Less tuition to be collected from participants		$0	-$630,000	-$630,000	-$630,000
APS +other metro		$1,100,000	$1,100,000	$1,100,000	$1,100,000
Total		$3,200,101	$2,801,246	$2,874,258	$2,874,258

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26) Turnaround services –Resource Reallocation Support

	Project name:	Turnaround services				
	Project number:	26				
	Funding source	RTTT				
	Criteria:	(E)(2)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$1,875,000	$1,250,000	$0	$0	3,125,000
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$1,875,000	$1,250,000	$0	$0	$3,125,000
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)**	**$1,875,000**	**$1,250,000**	**$0**	**$0**	**$3,125,000**

- **CONTRACTUAL**

  The State is making an investment as part of its Project Management initiative in an intensive *resource reallocation* review at both the State Education Agency and individual district levels. The State will secure external technical expertise in these areas and will make this expertise available to a select number of districts. The State expects to perform resource allocation analysis at 3 districts in 2010-2011 and 2 districts in 2011-2012. These resource reviews are expected to cost $3.125MM and will ensure that all resources are deployed efficiently. Discovered inefficiencies could be reallocated to district programs that prove to have a positive impact on student outcomes.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Resource allocation analysis					
Cost/district		$625,000	$625,000		
Number of districts		3	2		
Total		$1,875,000	$1,250,000		

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27) CIS Georgia – Performance Learning Center

	Project name:	CIS Georgia				
	Project number:	27				
	Funding source	RTTT				
	Criteria:	(E)(2)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$1,106,460	$458,460	$458,460	$458,460	2,481,840
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$1,106,460	$458,460	$458,460	$458,460	$2,481,840
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)**	**$1,106,460**	**$458,460**	**$458,460**	**$458,460**	**$2,481,840**

- **CONTRACTUAL**
  CIS Georgia will open three new prevention dropout centers within districts with lowest achieving schools. These performance learning centers will provide services to students who are at high risk of drop-out to prevent them from dropping out (example of "multiple pathways" for students). Total costs are expected to be $1,106,460 for setup and operations in 2010-2011 and $458,460 for operations in subsequent years (2011-12 through 2013-14).

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
CIS Georgia					
# of sites in operation		3	3	3	3
Setup cost per site		$200,000	$0	$0	$0
Total one-time costs		$600,000	$0	$0	$0
Curriculum and academic support / site		$50,000	$50,000	$50,000	$50,000
Coordinator / site		$66,500	$66,500	$66,500	$66,500
Total recurring site costs		$349,500	$349,500	$349,500	$349,500
Annual evaluation		$75,000	$75,000	$75,000	$75,000
Administrative overhead (8%)		$81,960	$33,960	$33,960	$33,960
Total CIS costs		**$1,106,460**	**$458,460**	**$458,460**	**$458,460**

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28) Innovation Fund

	Project name:	Innovation Fund				
	Project number:	28				
	Funding source	RTTT				
	Criteria:	(A)(2)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
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	$3,750,000	$3,750,000	$3,750,000	$3,750,000	15,000,000
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$3,750,000	$3,750,000	$3,750,000	$3,750,000	$15,000,000
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)**	**$3,750,000**	**$3,750,000**	**$3,750,000**	**$3,750,000**	**$15,000,000**

The Innovation Fund supports establishment and deepening of public-private partnerships between public institutions of higher education and private entities including private institutions of higher education, business, and non-profit organizations to leverage those partnerships to advance applied learning and academic achievement of Georgia's K-12 students. The fund will seed innovative efforts aimed to "green shoot" reform ventures that pioneer more effective tools and strategies.

The Innovation Fund will allow institutions to seek funding for partnerships that work within three areas that will significantly impact the future success of Georgia's students:

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1) supporting student learning
2) increasing the teacher and principal pipeline in high needs subjects and geographic areas, and
3) providing quality induction to retain and further develop highly effective teachers and leaders

Depending on need and resources, partnerships may be created to address one, two, or all of the three areas. *First*, partnerships may be funded to support student learning through a focus on identifying and implementing creative plans to leverage the group's resources (monetary, human, intellectual) to directly impact the applied learning curriculum such as the development of outdoor learning labs for science and mathematics in order to increase the academic achievement of K-12 students. *Second*, partnerships may be funded to increase the workforce of highly effective teachers to help meet district workforce needs, especially in high need subject areas, by assisting schools and/or districts in recruiting and training teachers through programs that are customized to meet the particular needs identified by the schools in the partnership. For example, north Georgia school districts may enter into partnerships that seek to increase the number of teachers with English as a Second Language certification, and school districts at the state's borders may enter into partnerships designed to influence new teachers' decisions to teach in Georgia as opposed to teaching in South Carolina or Alabama. *Lastly,* these partnerships may be funded to support induction efforts by focusing on supporting schools and/or districts to provide teachers and leaders with the opportunity to assimilate into the culture of their new school, to receive support in becoming pedagogical experts in their content area, to continue learning about their content fields, and to quickly learn and adopt the administrative requirements of their new school/district. For example, an induction partnership may dedicate resources towards deepening new teachers understanding of school and district assessments and using data from those assessments to drive instruction.

The program will be led by a grant manager (Innovation Fund Director) who will oversee the development of the Request for Proposal (RFP), the grant solicitation process, and manage the grant program and dissemination of best practices during the next five years. A cross-institutional, cross-agency review board will be formed to assist with grant selection and advise on the issues of evaluation, research, and communication about the program. The Board will develop/approve overall grant selection criteria, processes, oversee evaluation, research, and communication about the program. The RFP will allow the partnerships to seek funding for each of the three areas individually, or all three within one grant request.

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- **CONTRACTUAL**

  The following competitive grants will be made available:

  - Short duration district grants - 9 grants at $50K annually
  - Small district partnerships - 5 grants at $100K annually
  - Large district partnerships - 8 grants at $350K annually

  The size and number of grants made available may change depending on the projects funded.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Innovation Fund					
Short duration district grants		$ 450,000	$450,000	$450,000	$450,000
Small district partnerships		$ 500,000	$500,000	$500,000	$500,000
Large district partnerships		$ 2,800,000	$2,800,000	$2,800,000	$2,800,000
Total Innovation Fund cost		**$3,750,000**	**$3,750,000**	**$3,750,000**	**$3,750,000**

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29) Project Management

	Project name:	Project Management				
	Project number:	29				
	Funding source	RTTT				
	Criteria:	(A)(2)				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$937,286	$1,301,572	$1,301,572	$1,301,572	$4,842,002
2	Fringe Benefits	$283,660	$393,908	$393,908	$393,908	1,465,383
3	Travel	$0	$0	$0	$0	0
4	Equipment	$0	$0	$0	$0	0
5	Supplies	$0	$0	$0	$0	0
6	Contractual	$5,320,000	$2,675,000	$1,800,000	$0	9,795,000
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$0	$0	$0	$0	0
9	Total Direct Costs (lines 1-8)	$6,540,946	$4,370,480	$3,495,480	$1,695,480	$16,102,385
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)**	**$6,540,946**	**$4,370,480**	**$3,495,480**	**$1,695,480**	**$16,102,385**

- **PERSONNEL**

  Dedicated personnel will be hired to ensure smooth operations and management of the grant. Total personnel costs are expected to be $937,286 in the first year and $1,301,572 annually thereafter. A list of positions is included below:

  - A Race to the Top Implementation Director will be hired to oversee all Race to the Top projects and will be supported by a dedicated staff member

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- A Director and Assistant Director (both allocated at 20% of their time) within the Governor's Office of Student Achievement (GOSA) will ensure that Race to the Top projects align with other State initiatives
- A Longitudinal Data System Director will oversee all data system initiatives
- A Deputy Superintendent for School Turnaround will oversee the improvement of lowest achieving schools and will be supported by a dedicated staff member
- Two specialists will be hired into GOSA to evaluate and oversee the Value Added Growth Model
- Two specialists will be hired into the GOSA for Research and Development purposes
- One full time employee will be dedicated to merit pay
- One full time employee will be dedicated to auditing
- One full time employee will oversee grant disbursements from the Innovation Fund
- Two financial specialists will track disbursements of Race to the Top funds to all project areas
- A communications specialist will be hired, report to the RT3 Implementation Director, and work closely with the external PR/communications firm

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Additional GOSA capacity - VAM					
Salary/FTE			$75,000	$75,000	$75,000
Fringe assumption			*30.3%*	*30.3%*	*30.3%*
# of specialists			2	2	2
Total salary			$150,000	$150,000	$150,000
Total fringe			$45,396	$45,396	$45,396
Additional GOSA capacity - R&D					
Salary/FTE		$75,000	$75,000	$75,000	$75,000
Fringe assumption		*30.3%*	*30.3%*	*30.3%*	*30.3%*
# of specialists			2	2	2
Total salary		$0	$150,000	$150,000	$150,000
Total fringe		$0	$45,396	$45,396	$45,396
Additional GOSA capacity - Auditing & Merit Pay					
Salary/FTE		$75,000	$75,000	$75,000	$75,000
# of FTEs		1	1	1	1
Salary/FTE		$85,000	$85,000	$85,000	$85,000
# of FTEs		1	1	1	1
Fringe assumption		*30.3%*	*30.3%*	*30.3%*	*30.3%*
		$160,000	$160,000	$160,000	$160,000
		$48,422	$48,422	$48,422	$48,422
Additional GOSA capacity - Project Oversight					
Oversight salary at 20%		$ 20,000	$ 20,000	$ 20,000	$ 20,000
Oversight assistant at 20%		$ 18,000	$ 18,000	$ 18,000	$ 18,000
Fringe assumption		*30.3%*	*30.3%*	*30.3%*	*30.3%*
Total Personnel		$ 38,000	$ 38,000	$ 38,000	$ 38,000
Total Fringe		$ 11,500	$ 11,500	$ 11,500	$ 11,500

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Additional GOSA capacity - Innovation Fund					
Innovation Fund Director Salary		$ 80,000	$ 80,000	$ 80,000	$ 80,000
Fringe assumption		*30.3%*	*30.3%*	*30.3%*	*30.3%*
Total Personnel		$ 80,000	$ 80,000	$ 80,000	$ 80,000
Total Fringe		$ 24,211	$ 24,211	$ 24,211	$ 24,211
RT3 Implementation Director					
Salary/person/year		$ 100,000	$ 100,000	$ 100,000	$ 100,000
Fringe assumption		*30.3%*	*30.3%*	*30.3%*	*30.3%*
Total Personnel		$ 100,000	$ 100,000	$ 100,000	$ 100,000
Total Fringe		$ 30,264	$ 30,264	$ 30,264	$ 30,264
RT3 Executive Director - Staff					
Salary/person/year		$ 60,000	$ 60,000	$ 60,000	$ 60,000
Fringe assumption		*30.3%*	*30.3%*	*30.3%*	*30.3%*
Total Personnel		$ 60,000	$ 60,000	$ 60,000	$ 60,000
Total Fringe		$ 18,158	$ 18,158	$ 18,158	$ 18,158
LDS Project Director					
Salary/person/year	$128,572	$128,572	$128,572	$128,572	$128,572
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
RTTT weeks of hire	0.0	0.5	1.0	1.0	1.0
Total RTTT salary	$0	$64,286	$128,572	$128,572	$128,572
Total RTTT fringe	$0	$19,456	$38,911	$38,911	$38,911

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Communications Cost					
Communications staff salary		$ 75,000	$ 75,000	$ 75,000	$ 75,000
# of FTEs		1	1	1	1
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
Total Salary		$ 75,000	$ 75,000	$ 75,000	$ 75,000
Total Fringe		$ 22,698	$ 22,698	$ 22,698	$ 22,698
Deputy Supt. For School Turnaround					
Director salary		$ 140,000	$ 140,000	$ 140,000	$ 140,000
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
Total Salary		$ 140,000	$ 140,000	$ 140,000	$ 140,000
Total Fringe		$ 42,370	$ 42,370	$ 42,370	$ 42,370
Deputy Supt. For School Turnaround - Support Staff					
Support staff salary		$ 70,000	$ 70,000	$ 70,000	$ 70,000
Staff members		1	1	1	1
Fringe assumption	*30.3%*	*30.3%*	*30.3%*	*30.3%*	*30.3%*
Total Salary		$ 70,000	$ 70,000	$ 70,000	$ 70,000
Total Fringe		$ 21,185	$ 21,185	$ 21,185	$ 21,185
Budget Review Staff					
Salary/person/year		$ 75,000	$ 75,000	$ 75,000	$ 75,000
Total FTEs		2	2	2	2
Fringe assumption		*30.3%*	*30.3%*	*30.3%*	*30.3%*
Total Personnel		$ 150,000	$ 150,000	$ 150,000	$ 150,000
Total Fringe		$ 45,396	$ 45,396	$ 45,396	$ 45,396

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- **FRINGE BENEFITS**
  Fringe Benefits are assumed to be 30.264% of the total salary costs of personnel. Salary costs total $4.842MM. The total fringe benefits are therefore estimated to be $1,465,383.

- **CONTRACTUAL**
  Several external vendors are expected to be hired to supplement the full time project management teams. A list of projects to be accomplished by these vendors follows:

  - **Validation of the Value-Added Growth Model** - One contract for independent validation of the value added growth model with a vendor other than the primary developer ($250K total)

  - **Erasure and response similarity analysis** - Contractor to do full erasure and response similarity analyses on grades 1-8 CRCT within all test content areas ($250K total)

  - **Communications** – Cost to develop and execute an educational marketing plan and campaign for Georgia RT3 efforts ($845K)

  - **Other technical assistance to the State -** In the short to medium term (e.g., first 18-24 months of the grant), the State will supplement its internal capacity by contracting with high-quality external technical assistance firms and asking them to focus on specific, targeted engagements. This technical assistance is expected to cost $8.45MM over the period of the grant. External firms will provide the following services on a temporary basis to accelerate RT3 reforms**:**

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- *Implementation support at the State level:* Function as the "arms and legs" of the senior team responsible for RT3 implementation until the State project team is fully assembled, trained and ready to take over all implementation activities;

- *Assistance with strategic resource reallocation reviews:* This will be done both at the district level and the State level:

    - Districts: On the State's behalf, the technical assistance firm will provide assistance to a number of key districts in reviewing their resource allocations and identifying opportunities for reallocation. Creating a detailed resource mapping will give district leaders a clear idea of whether their resources are truly being used to support their strategic vision. Only then can they contemplate how these resources can be fundamentally reallocated to support improved instruction and student performance.

    - State: This kind of detailed analysis cannot be performed by external firms for all districts (not financially feasible or cost effective in the longer term), the external firm will work with State staff to develop processes, frameworks and tools at the State level to allow internal staff to conduct financial/resource allocation analyses on an ongoing basis, on their own. The State will then deploy the frameworks and toolkits to remaining districts.

- *Strategic planning at the district level to jumpstart RT3 reforms*: Districts are being asked to implement deep reforms in teacher and principal effectiveness, and in school turnaround. Some districts are more ready for this than others, but in general most districts stand to gain a tremendous amount from short-term, focused, strategic supports that might get at the following issues:

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- Teacher and principal effectiveness toolkit: What are the best demonstrated practices in this area? What types of analyses need to be conducted? What data needs to be tracked? What processes need to be put in place? Etc.

- School and student segmentation toolkit leading to development of multiple pathway strategies: What are the best demonstrated practices? What does the student population look like? What are the needs of the various student segments? How can the district develop segment-appropriate pathways? What is the optimal "portfolio" of school models at the district level? Etc.

	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Value Added Growth Model					
Dev and validation of VAM			$250,000	$0	$0
Erasure and response similarity analyses		$250,000	$0	$0	$0
Communications					
Market research		$ 75,000			
Develop creative tools		$ 190,000			
Develop marketing plan		$ 80,000			
Execute marketing plan		$ 500,000			
Other Technical Assistance: Implementation Support, Resource Reallocation Reviews, etc.					
Technical assistance projects		$ 4,225,000	$ 2,425,000	$ 1,800,000	
Total contractual costs	**$ -**	**$ 5,320,000**	**$ 2,675,000**	**$ 1,800,000**	**$ -**

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30) Invitational Priority 3: Innovations for Improving Early-Learning Outcomes

	Project name:	Priority 3: Innovations for Improving Early Learning Outcomes				
	Project number:	30				
	Funding source	RTTT				
		Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Total
	Budget categories					
1	Personnel	$175,000	$242,500	$252,500	$0	$670,000
2	Fringe Benefits	$52,500	$72,750	$75,750	$0	201,000
3	Travel	$15,000	$20,000	$20,000	$0	55,000
4	Equipment	$4,500	$1,500	$0	$0	6,000
5	Supplies	$3,000	$4,000	$4,000	$0	11,000
6	Contractual	$0	$0	$0	$0	0
7	Training Stipends	$0	$0	$0	$0	0
8	Other	$160,750	$135,000	$105,000	$0	400,750
9	Total Direct Costs (lines 1-8)	$410,750	$475,750	$457,250	$0	$1,343,750
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)**	**$410,750**	**$475,750**	**$457,250**	**$0**	**$1,343,750**

Bright from the Start: Georgia Department of Early Care and Learning would implement two initiatives to improve the quality of Georgia's Pre-K programs feeding into the elementary schools identified as lowest achieving. For both initiatives, an evaluation component is also proposed to test the feasibility of expanding both initiatives and to ensure that quality was improved in the programs receiving the services. If successful, both initiatives would improve the social, emotional, and cognitive skills that translate into improved school readiness and facilitate a smoother transition between Pre-K and kindergarten.

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The first initiative will utilize The Classroom Assessment Scoring System (CLASS) to provide targeted technical assistance to specific Georgia's Pre-K classrooms. The CLASS is an instrument used to assess classroom quality in areas specifically related to the interactions that take place throughout all elements of formal and informal instruction (Pianta, La Paro, and Hamre, 2008). According to the authors, the CLASS can be used for program accountability purposes, program planning and evaluation, and for professional development and supervision (Pianta, La Paro, and Hamre, 2008). All three purposes would be used in this proposed initiative.

The second initiative focuses primarily on the transition process between Pre-K and kindergarten. Currently, Georgia's Pre-K programs are able to apply for a separate resource coordination (RC) grant to provide specific family and children services related to transition. These services range from activities aiding families in being active participants in their child's transition, providing literacy workshops, discipline trainings, and facilitating, for those families who need extra support, eye, ear, and dental follow-ups based on screening referrals. Programs that receive the grant hire Resource Coordinators to oversee the service. These resource coordinators are trained under the Strengthening Families model that has been proven to effectively foster resilience translating into impacts related to improved academic achievement, reduced juvenile delinquency, and increased graduation rates. To be eligible for an RC grant, at least 50 percent of the children served in the program are eligible for means tested benefits such as free and reduced lunch, Medicaid or PeachCare, and transportation assistance. These are the students who are at the greatest risk, due to socio-economic circumstances, of school failure.

- **PERSONNEL**
  Two types of personnel will be hired: staff for CLASS evaluations and those for resource coordination. The evaluators are expected to be $60K each with 2 necessary in year 1 and 3 necessary in subsequent years. Evaluators will receive raises at $2.5K annually. There will be one resource coordinator necessary at a starting salary of $55K in year 1. The resource coordinator will receive salary increases of $2.5K annually. Total personnel costs are expected to be $670K over the four years.

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	Year 0	Year 1	Year 2	Year 3	Year 4
	2009/10	**2010/11**	**2011/12**	**2012/13**	**2013/14**
Initiative 1: CLASS Evaluations					
Evaluators		$ 60,000	$ 60,000	$ 60,000	
# FTEs		2	3	3	
Salary adjustments			$ 5,000	$ 12,500	
Initiative 2: Resource Coordination					
Resource coordinators		$ 55,000	$ 57,500	$ 60,000	
# FTEs		1	1	1	
Total Personnel costs		**$ 175,000**	**$ 242,500**	**$ 252,500**	

- **FRINGE BENEFITS**
  Fringe benefits are expected to be 30% of the total salary expenses. Since total salary is $670K, the total fringe across the four years is expected to be $201K.

- **TRAVEL**
  Evaluators will have significant travel costs to visit classrooms. It is expected that 225 classrooms ($10K cost) will be visited in the first year and 300 classrooms ($15K cost) will be visited in subsequent years. The resource coordinator will have a small travel budget of $5K annually.

- **EQUIPMENT**
  Development of the evaluation program will require $3K in evaluation equipment in year 1 and those costs will be scaled back to $1.5K in year 2. No equipment costs exist in year 3 for evaluators. Resource coordinators will require a small equipment budget of $1.5K in year 1 and no budget thereafter.

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- **SUPPLIES**
  Each staff member, both resource coordinators and evaluators, will require $1K in annual supply budget.

- **OTHER**
  Evaluators will require $60,750 in software licenses and materials over the 4 years. Resource coordinators will require $340K in additional software licenses and materials over the 4 years.

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Budget: Indirect Cost Information

To request reimbursement for indirect costs, please answer the following questions:

Does the State have an Indirect Cost Rate Agreement approved by the Federal government?

YES
(NO)

If yes to question 1, please provide the following information:

Period Covered by the Indirect Cost Rate Agreement (mm/dd/yyyy):

From: ___/___/_____ To: ___/___/_____

Approving Federal agency: ___ED ___Other

(Please specify agency): _____

Appendix A31: Educator and Stakeholder Survey Results

	Survey Responses

Survey Demographics	• **Teacher Survey**
	  o Total Respondents = 20,507
	  o Teachers = 15,300 (13% of overall teacher population in GA)
	  o Core Teachers = 10,346
	  o Non-Core Teachers = 4,954
	  o Paraprofessionals = 1,820
	  o School Administrators = 1,260
	  o Central Office Staff = 386
	  o Other = 1,741
	• **Stakeholder Survey**
	  o Total Respondents = 358
	  o University or Technical College Faculty = 62
	  o Non-profit Organization = 54
	  o Business Community = 46
	  o Philanthropic Organization = 4
	  o Legislature = 1
	  o Other = 190

Effectiveness of Current Evaluation Processes (Teacher Survey Results; n=20,507)	• ***79% of respondents*** agreed or strongly agreed with the statement that "there is a clear definition and expectation of what an effective teacher is in Georgia" • ***83% of respondents*** agreed or strongly agreed that "teachers are provided specific feedback to inform their classroom instruction" • ***Over a third of respondents,*** or 34%, disagreed or strongly disagreed that the "current evaluation process accurately differentiates effective teachers from ineffective teachers" • ***Half of respondents,*** or 50%, disagreed or strongly disagreed that "effective teachers are recognized and rewarded" • ***Two thirds of respondents,*** or 63%, disagreed or strongly disagreed that "ineffective teachers are removed consistently from the classroom" • ***Approximately 27% of respondents*** disagreed or strongly disagreed that "principals are well trained to help teachers become more effective in the classroom" • ***81% of respondents*** agreed or strongly agreed that "a common, statewide teacher evaluation system will help ensure that teachers across school districts have clear expectations regarding performance and are evaluated in the same way"
Inputs into the Evaluation Process (Teacher Survey Results; n=20,507)	• ***80% of respondents*** agreed or strongly agreed that "teachers should be evaluated based on both observation (of planning and instruction) and the degree to which they've helped students grow academically" • ***79% of respondents*** agreed or strongly agreed that "teachers should have a voice in evaluations through participation in teacher peer reviews"
Uses of Evaluation Data (Teacher Survey Results; n=20,507)	• ***71% of respondents*** disagreed or strongly disagreed that "ineffective teachers should be recertified despite poor evaluation ratings" • ***73% of respondents*** agreed or strongly agreed that "teachers who distinguish themselves as especially effective should have meaningful career advancement opportunities available to them. These career advancement opportunities would mean increased professional responsibilities without having to leave the classroom." • ***47% of respondents*** agreed or strongly agreed that "increases in salary should be driven by teacher effectiveness" • ***75% of respondents*** agreed or strongly agreed that "teachers who self-select to teach in low performing schools and who demonstrate an ability to close the achievement gap should be eligible for additional performance-based bonuses"

Appendix A31: Educator and Stakeholder Survey Results

Views on Teacher Preparation Programs (Teacher Survey Results; n=20,507)	• ***83% of respondents*** agreed or strongly agreed that "all teacher preparation programs should review the student achievement impact of their graduates to strengthen their preparation practices"
	• ***54% of respondents*** agreed or strongly agreed that "teacher preparation programs immerse candidates in diverse, sustained clinical experiences that are integrated with classroom theory"
	  o ***25% of respondents*** disagreed or strongly disagreed
	• ***53% of respondents*** agreed or strongly agreed that "teacher preparation programs prepare candidates to use data to differentiate and improve instruction"
	  o ***29% of respondents*** disagreed or strongly disagreed

Level of Appropriate Principal Authority (Teacher Survey Results; n=20,507)	• ***63% of respondents*** agreed or strongly agreed that "high-performing principals should have more autonomy over hiring and firing staff" • ***68% of respondents*** agreed or strongly agreed that "high-performing principals should have autonomy over spending school budgets"
Effectiveness of Current Evaluation Processes (Stakeholder Survey Results; n=358)	• ***54% of respondents*** agreed or strongly agreed with the statement that "there is a clear definition and expectation of what an effective teacher is in Georgia" • ***57% of respondents*** disagreed or strongly disagreed that "effective teachers are recognized and rewarded" • ***80% of respondents*** disagreed or strongly disagreed that "ineffective teachers are removed consistently from the classroom" • ***81% of respondents*** agreed or strongly agreed that "a common, statewide teacher evaluation system will help ensure that teachers across school districts have clear expectations regarding performance and are evaluated in the same way"
Inputs into the Evaluation Process (Stakeholder Survey Results; n=358)	• ***88% of respondents*** agreed or strongly agreed that "teachers should be evaluated based on both observation (of planning and instruction) and the degree to which they've helped students grow academically" • ***83% of respondents*** agreed or strongly agreed that "teachers should have a voice in evaluations through participation in teacher peer reviews"
Uses of Evaluation Data (Stakeholder Survey Results; n=358)	• ***83% of respondents*** disagreed or strongly disagreed that "ineffective teachers should be recertified despite poor evaluation ratings" • ***83% of respondents*** agreed or strongly agreed that "teachers who distinguish themselves as especially effective should have meaningful career advancement opportunities available to them. These career advancement opportunities would mean increased professional responsibilities without having to leave the classroom." • ***66% of respondents*** agreed or strongly agreed that "increases in salary should be driven by teacher effectiveness" • ***85% of respondents*** agreed or strongly agreed that "teachers who self-select to teach in low performing schools and who demonstrate an ability to close the achievement gap should be eligible for additional performance-based bonuses"

Appendix A31: Educator and Stakeholder Survey Results

Views on Teacher Preparation Programs (Stakeholder Survey Results; n=358)	• ***85% of respondents*** agreed or strongly agreed that "all teacher preparation programs should review the student achievement impact of their graduates to strengthen their preparation practices"
	• ***51% of respondents*** agreed or strongly agreed that "teacher preparation programs immerse candidates in diverse, sustained clinical experiences that are integrated with classroom theory"
	  o ***23% of respondents*** disagreed or strongly disagreed
	• ***49% of respondents*** agreed or strongly agreed that "teacher preparation programs prepare candidates to use data to differentiate and improve instruction"
	  o ***29% of respondents*** disagreed or strongly disagreed

Level of Appropriate Principal Authority (Stakeholder Survey Results; n=358)	• ***74% of respondents*** agreed or strongly agreed that "high-performing principals should have more autonomy over hiring and firing staff" • ***76% of respondents*** agreed or strongly agreed that "high-performing principals should have autonomy over spending school budgets"

* Responses did not vary between Core and Non-Core teachers

Appendix A32: Letters of Support

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STATE OF GEORGIA

OFFICE OF THE GOVERNOR

ATLANTA 30334-0900

May 21, 2010

Sonny Perdue
GOVERNOR

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

I write to express my full support for Georgia's Race to the Top application.

As I joked with you when you initially proposed the Race to the Top competition to a small group of governors at the February 2009 National Governor's Association conference, I believe your team was looking at Georgia's playbook when they created the Race to the Top reform guidelines. For years, we have been working to change the culture in education to one that focuses on performance and outcomes, from the current culture of compliance that has dominated education for far too long.

By bringing the focus to outcomes, we have made great gains in education in Georgia. When I first took office, I worked to bring attention to Georgia's dismal graduation rate which was just over 63 percent. We placed a graduation coach in every school whose mission is to identify and work with at-risk students to help them stay on track and find a path to graduation. This year, Georgia posted its highest ever graduation rate at over 78 percent and we are just within reach of the 80 percent goal we set for 2010.

My philosophy on the state's role in education has always been that we should provide the resources and set high standards for accountability, and then get out of the way to let the locals figure out what the best method is for meeting those standards. To that end, I introduced legislation in 2008 called the "Investing in Educational Excellence Partnership" (IE^2) legislation. The IE^2 partnership allows local school systems to enter into an agreement with the state to set up a system of performance contracts that allow for greater flexibility in return for increased accountability. Today, two of the state's largest and most successful systems are operating under IE^2 contracts, representing 12 percent of the state's students. A number of other districts are going through the negotiation phase.

Georgia's Race to the Top reform plan will build on the work we have done in rewarding high-performing teachers and keeping them in the classroom. In 2006, my office introduced "Master Teacher" legislation to provide a career ladder for teachers that

have demonstrated success in improving student learning and allows them to serve as academic coaches for other teachers. Our Race to the Top work will vastly expand this program, allowing us to identify the effectiveness of all teachers and leaders and reward those that are truly driving student achievement.

Additionally, this past legislative session I worked to pass a code of ethics and training program for local school boards, as well as a mechanism for state intervention in systems that are in danger of losing accreditation. Through this legislation, we will ensure that Georgia's Race to the Top reform plan is meaningful, sustainable and statewide.

The unprecedented opportunity the Race to the Top competition provides is a "Nixon goes to China" moment for education. Never before in the education world has there been such an opportunity to challenge the status quo and implement real, meaningful reform. I don't intend to squander that opportunity and I believe you will see that in our Race to the Top reform plan.

Thank you for your full consideration of Georgia's application.

Sincerely,

Sonny Perdue

Governor Sonny Perdue

STATE OF GEORGIA
OFFICE OF THE GOVERNOR
ATLANTA 30334-0900

Sonny Perdue
GOVERNOR

May 21, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

As the Steering Committee that leads Georgia's Race to the Top (RT3) efforts, representing the Governor's Office, the Office of Student Achievement, and the Department of Education, we write to express our full support for our State's application.

In bringing together Georgia's RT3 team, we sought to ensure full participation of the many stakeholders and experts that make up the education landscape across Georgia. Our Steering Committee worked under the leadership of the Executive Committee - Governor Sonny Perdue, State Superintendent Kathy Cox and State Board of Education Chair Wanda Barrs - to create four working groups of individuals with expertise aligned to the four assurance areas. The individuals that make up these working groups represent a vast array of stakeholders – from teachers, local K-12 leaders, and State agency personnel charged with implementing the reform plan, to researchers, non-profit and informal education organizations, c harter organizations, university leaders and national experts with years of experience studying best practices in education.

Additionally, we convened one more working group - the "Critical Feedback" team - comprised of leaders from the Georgia General Assembly, the business community, the philanthropic community and local education authorities. Because the members of this group play a large role in garnering public support, communicating the state's agenda and implementing the state's plan, we sought to engage them as critical thought partners and to ensure that they support the reform plan generated by the four working groups.

Georgia values the hard work of its teachers and school leaders. They are on the front lines of education and are ultimately responsible for implementing the state's reform plan and driving student achievement. In addition to welcoming their ideas and contributions through Georgia's RT3 website, we invited every teacher and leader in the state to participate in a survey to give their opinion on the ideas in Georgia's reform proposal. The survey response was overwhelming, with over 20,000 teachers and leaders responding to the ideas that have been incorporated in Georgia's RT3 reform plan.

Georgia's RT3 reform plan will help continue to transform the education culture in Georgia to one that is focused on performance and outcomes. We have long believed this culture change is needed to heighten the focus on student learning and ultimately, to close the achievement gap. We can state with

confidence that we have proactively engaged Georgia's education stakeholders and experts to gain maximum support for the State's reform plan.

We are excited about the momentum behind Georgia's RT3 agenda, and we are anxious to implement these reforms to increase student achievement, close achievement gaps, and ensure that Georgia's students are prepared for success in college and the work place. Thank you for your full consideration of Georgia's application.

Sincerely,

Erin Hames, Policy Director
Office of Governor Sonny Perdue

Kathleen Mathers, Executive Director
Governor's Office of Student Achievement

Stephen Pruitt, Chief of Staff
Georgia Department of Education

May 21, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

On behalf of the members of the Georgia Race to the Top Supporting Low-Achieving Schools Task Force, it gives me great pleasure to express our support of Georgia's Race to the Top application and the recommendations of our working group.

We have created a comprehensive reform agenda designed to turn around the state's chronically low-achieving schools. We believe that an intervention evaluation model that considers years failing to meet Adequate Yearly Progress, coupled with a state-level intensive assessment, will help us strategically determine which of the four turnaround models will be most effective for reforming the state's failing schools. We plan to inundate regional clusters of the state's lowest-achieving schools with highly effective teachers developed through partnerships with Teach for America and The New Teacher Project. .

Furthermore, we will place a high-performing principal in each of the state's lowest-achieving schools and empower those principals with autonomy over staffing and budget to improve the performance of the schools. Local Education Authorities (LEAs) will submit to a rigorous review of existing resource allocations to ensure that their resources are being deployed with maximum impact. We also plan to place a full-time math coach and graduation coach in each struggling school in the state, in addition to enabling the LEA to grant students credit towards graduation requirements based on proficiency rather than seat time. We know that a one-size-fits-all education is not the right plan for every student.

Significant progress has been made in the state's lowest achieving schools by the Georgia Department of Education's School Improvement team. We believe that building on their work with the recommendations of our working group and those of the other Georgia Race to the Top task forces will result in dramatic culture and performance changes in the state's lowest achieving schools.

I was privileged to serve as the leader of this task force, and I was able to bring my experience as a principal overseeing the successful turn-around of several failing schools.

This task force was comprised of leaders from local education authorities, the University System, local non-profits and foundations, Georgia Charter community, the state Department of Education and others.

We stand behind these recommendations and believe they are the right reforms to ensure that all Georgia students have access to a quality, first-class education, from pre-k to Ph.D.

Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

Leigh Colburn, Principal
Marietta High School

On Behalf of:

Christine Bean, Vice President of Education
Fernbank Museum of Natural History

Clara Keith, Deputy Superintendent Policy & External Affairs
Georgia Department of Education

Chuck Knapp, President Emeritus
University of Georgia

Mary Mazarky, Assistant Commissioner for Pre-K
Georgia Department of Early Care and Learning

Penny McPhee, President and Trustee
Arthur M. Blank Family Foundation

Gerard Robinson, President
Black Alliance for Educational Options

Sarina Russotto, Legal Specialist
Georgia Department of Education

Ben Scafidi, Professor
Georgia College and State University

Appendix A32: Letters of Support

Will Scholfield, Superintendent
Hall County Schools

Korynn Schooley, Policy and Advocacy Manager
Georgia Afterschool Investment Council

Danny Shoy, Senior Program Officer, Pathways to Success
Arthur M. Blank Family Foundation

May 21, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

We, the members of the Georgia Race to the Top Data Systems to Support Instruction Task Force, express great pleasure in supporting Georgia's Race to the Top application and the recommendations of our working group.

Our task force has created a comprehensive agenda for implementing a robust statewide longitudinal data system that adheres to the essential elements of the America COMPETES Act. We will create a P-20 data system that will help teachers use data to improve their classroom practice, make data more available and understandable to parents, and more accessible to researchers seeking ways to evaluate programs and improve our public schools. We will use the data system to drive teacher effectiveness through credible value-added performance pay and career ladder systems. By linking student achievement back to teacher preparation programs, we will identify our most effective teacher and leader preparation programs and use their practices to inform other programs.

We believe that a robust longitudinal data system is the foundation for significant education reform and is vital to implementing all of the reforms called for in Race to the Top. In recent years we have made considerable progress in our longitudinal data system and have served as a model for other states. For example, students from Georgia's pre-Kindergarten program can now be tracked into the K-12 system, across separate state agencies. Also, Georgia has a statewide contract with the National Student Clearinghouse which allows us to study our graduates' postsecondary enrollment across the country. The recommendations of this task force build off that strong foundation and ensure that all Georgia educators, policymakers and stakeholders are able to make data-driven decisions that will improve student achievement.

The Data Systems to Support Instruction Task Force was led by Dr. Eric Wearne, Deputy Director of the Governor's Office of Student Achievement, who has experience as a high school teacher, was named a Woodruff Fellow and a University Supervisor in the Division of Educational Studies at Emory University, and has led GOSA's state-level education research projects for several years. The Task Force was comprised of various stakeholders from across the state, including all seven Georgia education agencies, a local education agency, the business community and other data experts.

We stand behind these recommendations and believe they are the right reforms to revolutionize education in Georgia and move from a compliance driven system, to one that focuses on performance and outcomes.

Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

Eric Wearne, Deputy Director
Governor's Office of Student Achievement

On behalf of:

Dean Alford, President & CEO
Allied Energy Services

Dan Bugler, Senior Research Associate
WestEd

Susan Campbell, Assistant Vice Chancellor for Strategic Research & Analysis
University System of Georgia

Craig Detweiler, Chief Officer of Operations and Information
Georgia Department of Early Care and Learning

Jerry Eads, Research Coordinator
Georgia Professional Standards Commission

Chris Ferland, Research Analyst Lead
University System of Georgia

Sandra Kinney, Research Manager
Technical College System of Georgia

David Lee, Vice President, Strategic Research and Analysis
Georgia Student Finance Commission

Andy Parsons, Executive Director of Data, Planning, and Research
Technical College System of Georgia

Mark Pevey, Director of Information Technology and Research
Georgia Professional Standards Commission

Appendix A32: Letters of Support

Bentley Ponder, Research and Evaluation
Georgia Department of Early Care and Learning

Melinda Spencer, Chief of Staff
University System of Georgia

Bob Swiggum, Chief Information Officer
Georgia Department of Education

Mark Walls, Director, Information Systems
Gwinnett County Public Schools

Levette Williams, Director, Technology Management
Georgia Department of Education

May 21, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

On behalf of the members of the Georgia Race to the Top Rigorous Standards and Assessments Task Force, it gives me great pleasure to express our support of Georgia's Race to the Top application and the recommendations of our working group.

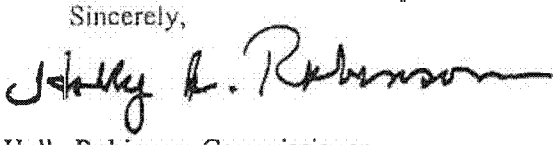
Our task force has created a comprehensive reform agenda designed to adopt the National Governor's Association and Chief State School Officers Common Core standards within six months. We believe fewer, clearer and higher standards that are nationally and internationally benchmarked will drive education reform and student achievement across the nation. Additionally, we believe the creation of a national assessment that allows all 50 states to compare not just to each other, but to other nations around the globe, will truly drive student achievement.

As Governor Perdue serves as Chairman of the Common Core State Standards Initiative through the National Governors Association, he has played a strong leadership role in shaping this initiative. Georgia has made significant progress in implementing rigorous standards through the adoption of the Georgia Performance Standards. Due to our state's leadership and progress in this movement, Georgia was one of several states asked to provide feedback and input for the creation of the national standards.

As the Commissioner of the Georgia Department of Early Care and Learning, I was privileged to lead the Rigorous Standards & Assessments Task Force and to use my years of experience in education in this once in a lifetime opportunity. The members of our task force were stakeholders from across the state, including leaders from local education authorities, the University System of Georgia, the Georgia Department of Education, Georgia Public Broadcasting, the Technical College System of Georgia, and others.

We stand behind these recommendations and believe they are the right reforms for Georgia and the nation. Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,



Holly Robinson, Commissioner
Georgia Department of Early Care & Learning

On behalf of:

Suzi Bonifay, Associate Superintendent of Curriculum & Instruction
Decatur County Schools

Melissa Fincher, Associate Superintendent, Assessment and Accountability
Georgia Department of Education

Freida Hill, Deputy Commissioner
Technical College System of Georgia

Susan Campbell Lounsbury, Assistant Vice Chancellor for Research and Policy Analysis
University System of Georgia

Bettye Ray, Superintendent
Social Circle City Schools

Martha Reichrath, Deputy Superintendent for Standards, Instruction, & Assessment
Georgia Department of Education

Teya Ryan, President and Executive Director
Georgia Public Broadcasting

Paul Shaw, Superintendent
White County Schools

Cynde Snider, Instructional Coordinator for 9-12
Decatur City Schools

Marilyn Stansbury, Director of Education
Georgia Public Broadcasting

Terry Watlington, Chief of Staff
Fulton County Schools

May 21, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

On behalf of the members of the Georgia Race to the Top Great Teachers and Leaders Task Force, it gives me great pleasure to express our support of Georgia's Race to the Top application and the recommendations of our working group.

We have created a comprehensive reform agenda designed to drive teacher and leader effectiveness. We believe that a credible performance pay system supported by data and career ladder opportunities for highly effective teachers will help us identify and reward our best teachers and incent them to stay in the classroom. Additionally, we believe that creating a pipeline of new leaders and teachers through alternative pathways and partnerships with Teach for America and The New Teacher Project will change the culture in Georgia schools from a focus on compliance and inputs to performance and outcomes.

The state has made significant progress in alternative certification, and we will build on that foundation by supporting the entry of content knowledge experts with an interest in teaching into the profession. By linking student achievement back to teacher preparation programs, we will identify our most effective programs and use their practices to inform other preparation programs.

I feel privileged to have been able to use my 40 years of experience as a teacher, principal and superintendent, as well as my current position as the Executive Secretary of the Georgia Professional Standards Commission, to lead The Great Teachers & Leaders Task Force. The group was comprised of various stakeholders across the state, including K-12 teachers and leaders, the University System, the state director of Teach for America, the State Workforce Investment Board, the Georgia Department of Education and others.

We stand behind these recommendations and believe they are the right reforms to ensure that all Georgia students are being served by highly effective, educators who make data-driven decisions to improve achievement in their schools.

Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

Kelly Henson, Executive Secretary
Professional Standards Commission

On Behalf of:

Diane Bradford, Deputy Superintendent for Teacher and Student Support
Georgia Department of Education

Elisa Falco, Principal and CEO
Tech High School

Kwame Griffith, Executive Director
Teach for America

Tom Higgins, Education Staff Specialist
Professional Standards Commission

Eric Houck, Professor of Educational Administration and Policy
College of Education, University of Georgia

Kim Metcalf, Dean
College of Education, University of West Georgia

Mark Musick, Chairman
Georgia Workforce Investment Board

John Rajeski, Teacher
KIPP STRIVE Academy

Lynne Weisenbach, Vice Chancellor for P-16 Initiatives
University System of Georgia

Stephanie Williams, Teacher
Montgomery Elementary, DeKalb County Schools

The Alliance of
Education Agency Heads

1554 Twin Towers East, 205 Jesse Hill Jr. Drive, SE, Atlanta, Georgia 30334 • 404-657-4122

May 20, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

The members of the Georgia Alliance of Education Agency Heads (Alliance) take great pleasure in expressing our support for Georgia's Race to the Top (RT3) application.

Formed by Governor Sonny Perdue in 2006, the Alliance is comprised of the state's seven education agency heads and the Governor's education policy advisor, and is charged with collaborating on policies and programs that can prepare Georgia's next generation for the opportunities and challenges of the 21st century. The Alliance is a truly unique organization that adds value and eliminates the silos that far too often serve as barriers to education reform in states. Many states are beginning to replicate this model. By working together, the Alliance ensures that each Georgia education agency is supporting five over-arching goals, to change the course of Georgia's future for all of its citizens:

1. Increase high school graduation rate, decrease high school drop-out rate, and increase post-secondary enrollment rate.
2. Strengthen teacher quality, recruitment, and retention.
3. Improve workforce readiness skills.
4. Develop strong education leaders, particularly at the building level.
5. Improve the SAT/ACT scores of Georgia students.

We strongly believe that Georgia's RT3 plan not only supports all five goals of the Alliance, but will give us the momentum to move these goals forward in a manner that would not be possible without RT3 support. We see RT3 as the perfect opportunity to complete our work on the state longitudinal data system, something which we have had the will to do, yet lacked sufficient resources.

We are also committed to working collaboratively on those initiatives that require cross-agency coordination - from evaluating educator effectiveness and reforming preparation programs to creating a seamless education system and ensuring that all students graduate high school college-and-career ready. Our state's RT3 agenda clearly articulates our goals for implementing reforms in the four assurance areas and establishes a clear and credible path to achieving and sustaining those goals long-term. The Alliance is firmly committed to implementing Georgia's Race to the Top Plan should we be awarded these funds.

Thank you for your consideration of Georgia's application.

Sincerely,

Kathy Cox, State Superintendent of Schools
Georgia Department of Education
Chair, Alliance of Education Agency Heads

Timothy A. Connell, President
Georgia Student Finance Commission

Erroll B. Davis, Jr., Chancellor
Board of Regents of the University System of Georgia

Erin Hames, Policy Director
Office of Governor Sonny Perdue

Kelly C. Henson, Executive Secretary
Georgia Professional Standards Commission

Ronald Jackson, Commissioner
Technical College System of Georgia

Kathleen Boyle Mathers, Executive Director
Governor's Office of Student Achievement

Holly A. Robinson, Commissioner
Georgia Department of Early Care and Learning

BRIGHT from the START
Georgia Department of Early Care and Learning

Sonny Perdue
Governor

10 Park Place, Suite 200, Atlanta, Georgia 30303
(404) 656-5957

Holly A. Robinson, Ed.D.
Commissioner

May 20, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

It is with great enthusiasm that I express my support for Georgia's Race to the Top application. Our state has created a comprehensive agenda that clearly articulates our goals for implementing reforms in the four assurance areas, as well as a clear and dynamic path to achieving and sustaining these solid long term goals.

I believe the Race to Top funds will allow Georgia to continue to close the achievement gap and ensure that every student in our great state receives a world class education. The Race to Top funds will build on the strong foundation Georgia has created and allow our students to achieve new heights.

Together, Bright from the Start and The Department of Human Services are working with The Annie E. Casey Foundation on THE GEORGIA GRADE LEVEL READING CAMPAIGN. This campaign will focus on bringing together major stakeholders and practitioners who work with children ages birth to eight years old. The goal is to coordinate these stakeholders efforts based on research and child development, to ensure that every child in Georgia is reading at or above grade level when he or she completes third grade.

This GEORGIA GRADE LEVEL READING CAMPAIGN will work directly with The Race to the Top lowest achieving schools and work to impact students in chronically low-performing clusters from Pre-K through third grade.

I strongly support Georgia's Race to the Top reform plan. Thank you for this opportunity and for giving our state's your full consideration.

Respectfully,

Holly A. Robinson, Ed.D.
Commissioner

DHS

B.J. Walker, Commissioner

Georgia Department of Human Services • Suite 29.250 • Two Peachtree Street, NW • Atlanta, Georgia 30303-3142 • 404/651-6314

May 20, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

I want to express my department's enthusiasm and support for Georgia's Race to the Top application. As Commissioner of the Georgia Department of Human Services (DHS), I know how important it will be for children in our state to be ready to learn and experience high quality learning environments throughout their school years.

DHS believes that Georgia's plan is comprehensive and focused on ensuring that schools and school districts are moving their practice to align with world class learning standards.

Together, we along with Bright from the Start are working with the Annie E. Casey Foundation on THE GEORGIA GRADE LEVEL READING CAMPAIGN. This campaign will focus on bringing together major stakeholders and practitioners who work with children ages birth to eight years old. The goal is to coordinate these stakeholders' efforts based on research and child development, to ensure that every child in Georgia is reading at or above grade level when he or she completes third grade.

This GEORGIA GRADE LEVEL READING CAMPAIGN will work directly with The Race to the Top's lowest achieving schools and work to impact students in chronically low-performing clusters from Pre-K through third grade.

We strongly support Georgia's Race to the Top reform plan. Thank you for this opportunity and for giving our state your full consideration.

Sincerely,

B.J. Walker
Commissioner

GEORGIA COLLEGE & STATE UNIVERSITY
Georgia's Public Liberal Arts University

Department of Economics and Finance
J. Whitney Bunting College of Business
Campus Box 14
Milledgeville, Georgia 31061-0490
Phone (478) 445-4210
Fax (478) 445-1535

May 19, 2010

Dear Mr. Secretary:

As a member of the Center for an Educated Georgia (CEG) and Chair of the State of Georgia's Charter School Commission (Commission), I write to support Georgia's Race to the Top application.

CEG is the leading education reform organization in Georgia, and we work to ensure that the best educational opportunities and policies exist for all Georgia students. We believe that keeping kids in school and ensuring that they are receiving an education that best fits their unique educational needs is imperative for their future success, their family's future success, and the good of society as a whole.

The Commission is a state-level, independent charter school authorizer. Created by the Georgia General Assembly in 2008, the Commission provides an additional avenue for the creation of new charter schools, while maintaining high standards of accountability—in 2009, our first year of operation, we voted on 31 petitions and approved only 9.

I was honored to serve on the state's RT3 Supporting Low-Achieving Schools Task Force and provide input on the state's turnaround plan. As charter conversion is a key-turnaround model suggested in the RT3 guidelines provided by the U.S. Department of Education, I sought to ensure that Georgia's turnaround plan included innovative, charter-friendly practices while not sacrificing our high accountability standards to "charter for the sake of chartering."

I believe that Georgia's turnaround plan will successfully provide support to the state's lowest achieving schools and put them on a path to success. Georgia's intervention plan ensures that we determine which of four turnaround models will be most effective for reforming each of the state's failing schools. While a one-size-fits-all education is not right for every student, a one-size-fits all intervention is not the right for every school.

Thank you for this opportunity and for giving our state's application consideration.

Sincerely,

Benjamin Scafidi

Gordon L. Joyner, Esq.
Executive Director and
Administrator

Sonny Perdue
Governor

The State of Georgia Civil Rights Department --

The Georgia Commission on Equal Opportunity

West Tower – Suite 1002
2 Martin Luther King, Jr. Drive, S.E.
Atlanta, Georgia 30334
404-656-1736 / 1-800-473-OPEN

May 21, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

It gives me and the staff members and affiliates of The State of Georgia Civil Rights Department – *The Georgia Commission on Equal Opportunity* (which enforces Georgia's statutes against employment discrimination and housing discrimination) great pride and pleasure to express our total and enthusiastic support for Georgia's Race to the Top application! Our agency at this very moment is completing preparation for our major Public Information And Education Forum which we will be presenting tomorrow morning in partnership with the NAACP Atlanta Branch

Our state has created a comprehensive agenda that clearly articulates our goals for implementing reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. We sincerely believe the Race to the Top funds will allow Georgia to close the achievement gap and ensure that every student in our state receives a world-class education that prepares them to enter the 21st century global workforce.

Georgia has committed significant resources to reforming and improving education in our state and has made considerable progress in improving the graduation rate and student achievement. The Race to the Top funds will build on this strong foundation and move achievement in our state to new heights. I can speak personally and passionately in my support of this

crucially important public education initiative from my perspective as a Georgia native (both of whose parents were career public school teachers in this state) who attended the public schools of Fort Valley, Peach County, Georgia from first grade through twelfth grade, graduated from Morehouse College and Harvard Law School, matriculated further at the University of Ibadan in Nigeria and the University of Bonn in Germany, and went on to serve in Washington, D.C. as a Senior Executive Service appointee in both the Carter Administration and the Reagan Administration.

With this perspective on the critical need to ensure the best in public education in our state, I strongly support Georgia's Race to the Top reform plan. Thank you for this opportunity and for giving our state's application your full consideration.

Yours for Equal Opportunity for All,

Gordon L. Joyner, Esq.
Executive Director and Administrator

GLJ/pc

May 21, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

As President and Superintendent of the Year for the Georgia School Superintendents Association, we strongly endorse Georgia's Race to the Top application. While we cannot speak for all superintendents in our organization, many of our school systems have signed on to Race to the Top and are committed to partnering with the State on this exciting work. These superintendents represent many of Georgia's most influential and leading school systems and are trendsetters in many areas of school improvement and reform. In fact, within this group are the National Superintendent of the Year and two National Finalists for Superintendent of the Year. The selection of these superintendents to lead the implementation of Georgia's Race to the Top will enable our state to continue its development of a strong learning culture which will eventually allow these best practices to be implemented throughout the state.

Through new district effectiveness measures created in the state's plan, school systems will be able to measure where they stand in relation to other systems and learn about targeted strategic areas where they can improve. Additionally, the state has committed to provide support to school systems and build capacity at the local level. The partnering systems are committed to helping the state work out any unfinished details and then sharing best practices with their neighboring systems to implement these reforms statewide.

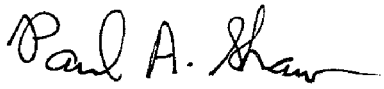
We also look forward to implementing the reforms that will happen at the state level to improve student achievement for all of Georgia's students, both in and outside of our school systems. Georgia's Race to the Top plan will help all systems use teacher and student-level data more effectively, implement rigorous standards and assessments to improve student learning, and ensure that every student is served by effective teachers and leaders. This work will have an enormously positive and statewide impact on student achievement.

Student achievement is the focus of all Georgia superintendents. We embrace the challenges and opportunities which lie ahead. The opportunities afforded to us through the Race to the Top will enable Georgia to be a leader in School Improvement and will help transform our public schools into a world-class educational system that prepares our students to enter the 21st century global workforce.

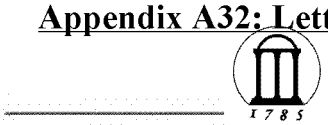
We thank you for allowing us this opportunity and trust that you will select our state to implement these reforms.

Sincerely,

Steve Smith
President, Georgia School Superintendents Association
Superintendent, Lowndes County Public Schools



Paul A. Shaw
Superintendent of the Year, Georgia School Superintendents Association
Superintendent, White County School System



Institute of Higher Education

May 17, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

The Institute of Higher Education is pleased to support Georgia's involvement in the "Race to the Top" initiative. The development of good education policy relies heavily on information about students and their progress through K-12 and postsecondary education. The current initiative by the federal government to support the creation of student unit record databases in the states is a very important step in this direction. By tracking students over time and across different educational settings, such databases will make it possible for analysts to examine patterns in students' educational progress and potentially identify policy reforms and initiatives that can improve their chances for success.

The Institute of Higher Education at the University of Georgia is a strong supporter of this initiative here in the State of Georgia. The Institute has a longstanding reputation for solid analyses of higher education policy issues and for service to the state and nation. The state could benefit greatly from the creation of a student unit record database, and the Institute can provide analytical support for examining a wide range of policy issues related to students' access to colleges and universities as well as students' academic success within those institutions.

The senior faculty of the Institute includes Professor Jim Hearn and Rob Toutkoushian, both with expertise and interest in this area. Jim holds a Ph.D. in sociology of education from Stanford and focuses his research on policy, organization, and finance. Rob holds a Ph.D. in economics from Indiana University and specializes in the application of economic theories and methods to problems in higher education. The Institute is ranked sixth among all doctoral programs nationally in the study of higher education, and we would bring a strong cohort of doctoral students to this research.

Best wishes in launching this important initiative. Please contact me if you need additional information. We look forward to a productive collaboration.

Sincerely,

Libby V. Morris

Libby V. Morris, Ph.D.
Director and Professor of Higher Education

Meigs Hall · Athens, Georgia 30602-6772 · Telephone (706) 542-3464 · Fax (706) 542-7588
An Equal Opportunity/Affirmative Action Institution

The Alliance of
Education Agency Heads

1554 Twin Towers East, 205 Jesse Hill Jr. Drive, SE, Atlanta, Georgia 30334 • 404-657-4122

May 20, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

The members of the Georgia Joint Education Boards Liaison Committee (JEBLC) take great pleasure in expressing our support for Georgia's Race to the Top (RT3) application.

Much like the Georgia Alliance of Education Agency Heads (Alliance), JEBLC is comprised of members of each of the state's seven education agency boards and is charged with collaborating on policies and programs that can prepare Georgia's next generation for the opportunities and challenges of the 21st century. By working together, JEBLC ensures that each Georgia education board is supporting the state's five education goals:

1. Increase high school graduation rate, decrease high school drop-out rate, and increase post-secondary enrollment rate.
2. Strengthen teacher quality, recruitment, and retention.
3. Improve workforce readiness skills.
4. Develop strong education leaders, particularly at the building level.
5. Improve the SAT/ACT scores of Georgia students.

We strongly believe that Georgia's RT3 plan supports all five of the state's goals and will allow us to move these goals and student achievement forward in an unprecedented fashion. Our state's RT3 agenda clearly articulates our goals for implementing reforms in the four assurance areas and establishes a clear and credible path to achieving and sustaining those goals long-term. The JEBLC is firmly committed to implementing Georgia's Race to the Top Plan should we be awarded these funds.

Thank you for your consideration of Georgia's application.

Sincerely,

Albert Hodge, Chair
Joint Education Boards Liaison Committee
Member, State Board of Education

(SIGNATURES CONTINUED ON NEXT PAGE)

C. Dean Alford, Chair
State Board of Technical and Adult Education

Wanda Barrs, Chair
State Board of Education

Robert F. Hatcher, Chair
Board of Regents of the University System of Georgia

William R. Jerles, Jr., Chair
Georgia Student Finance Commission Board of Commissioners

Luann L. Purcell, Chair
State Board of Early Care and Learning

Deborah Wilkes, Chair
Georgia Professional Standards Commission

Georgia PTA
everychild.onevoice.

114 Baker Street, NE
Atlanta, Georgia 30308
404-659-0214
800-PTA-TODAY

May 26, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

On behalf of the members of the Georgia PTA, it is with great pleasure we express our support for Georgia's Race to the Top application.

Our state has created a comprehensive agenda that clearly articulates our goals for implementing reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. We believe the Race to the Top funds will allow Georgia to close the achievement gap and ensure that every student in our state receives a world-class education that prepares them to enter the 21st century global workforce.

Georgia has committed significant resources to reforming and improving education in our state and has made considerable progress in improving the graduation rate and student achievement. The Race to the Top funds will build on this strong foundation and move achievement in our state to new heights.

I strongly support Georgia's Race to the Top reform plan. Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

Sheila Cornelius
Sheila Cornelius
President Georgia PTA

Protecting Georgia's Higher Standard of Learning

Georgia Professional Standards Commission

May 14, 2010

Dear Mr. Secretary:

As Executive Secretary of the Georgia Professional Standards Commission (Commission), I would like to express my wholehearted support for Georgia's Race to the Top (RT3) application.

The Commission is charged with overseeing the certification, preparation, and conduct of certified, licensed, or permitted personnel employed in the public schools of the State of Georgia. Additionally, we are responsible for the development and administration of teacher certification testing and the investigation, advisement, monitoring, and due process of cases associated with educator discipline.

The Commission has long been committed to removing barriers to teacher certification and identifying Georgia's most effective educators. Georgia's RT3 application builds on this foundation of reform, creating a pipeline of new teachers through alternative certification efforts and recognizing and rewarding the state's most effective teachers and leaders through career ladder and performance pay systems focused on student achievement.

As the disciplinary body charged with overseeing the conduct of Georgia educators, the Commission is also committed to working with the Governor's Office of Student Achievement to hold accountable those educators that abuse the state's performance pay system to the detriment of their students through unethical behavior.

The Commission is committed to implementing Georgia's RT3 reform plan. I was honored to serve as Chair of the Great Teachers and Leaders Working Group and I firmly believe that that our state's agenda will create a culture focused on student achievement and outcomes among Georgia educators.

Thank you for your full consideration of Georgia's application.

Sincerely,

Kelly Henson
Executive Secretary

Two Peachtree Street, Suite 6000 • Atlanta, Georgia • 30303-3141 • Phone (404) 232-2500 • Fax (404) 232-2502 • www.GaPSC.com

SREB

Southern Regional Education Board
592 Tenth Street, NW
Atlanta, Georgia 30318-5790
Phone 404-875-9211
Fax 404-872-1477
www.sreb.org

May 14, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

It gives me and the members of my organization great pleasure to express our support for Georgia's Race to the Top application.

Georgia has created a comprehensive agenda that clearly articulates our goals for implementing reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. We believe the Race to the Top funds will allow Georgia to make progress in closing the achievement gap, ensuring that more students meet college- and career-readiness standards and that many more students in our state receive a world-class education that prepares them for the 21st-century global workforce.

Georgia has committed significant resources to reforming and improving education in our state, and we believe The Race to the Top funds will continue Georgia's progress in improving the graduation rate and student achievement. The Race to the Top agenda will build on the state's current work and will move achievement in our state to new heights.

SREB strongly supports Georgia's Race to the Top reform plan. Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

David S. Spence
President

Georgia
State Board of Education

May 20, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

The members of the Georgia State Board of Education (SBOE) take great pleasure in expressing our support for Georgia's Race to the Top (RT3) application.

The SBOE with the State Superintendent of Schools is charged with providing the statewide leadership necessary to ensure the opportunity for each public school student to be successful. We work to create an environment in which local schools and systems are empowered to develop policies and programs that meet the educational needs of their students, that support teachers and that involve parents and communities in the education process. The SBOE works to ensure that all Georgia Department of Education (GaDOE) policies support the five goals of the Georgia Alliance of Education Agency Heads and one additional goal relating to financial accountability.

We believe that Georgia's RT3 application clearly establishes an overarching reform plan that is consistent with the goals of the SBOE and builds on a foundation of good work and best practices taking place throughout the state. We believe this is the right plan to move student achievement forward and ensure that all Georgia students receive a 21st century education and graduate from high school as college and career ready.

We strongly support Georgia's RT3 reform agenda and are firmly committed to implementing this plan should we be awarded RT3 funds.

Thank you for your consideration of Georgia's application.

Sincerely,

Wanda T. Barrs

Wanda T. Barrs, Chair
State Board of Education

WTB/bt
Attachment

Linda M. Zechmann
First Congressional District

Wanda T. Barrs, Chair
Eighth Congressional District

Dr. Elizabeth Ragsdale
Second Congressional District

Larry Winters
Ninth Congressional District

Vacant
Third Congressional District

Brian K. Burdette
Tenth Congressional District

Brad Bryant
Fourth Congressional District

Al Hodge
Eleventh Congressional District

Dr. James Bostic, Jr.
Fifth Congressional District

Allen Rice
Twelfth Congressional District

Robert Law
Sixth Congressional District

Dr. Mary Sue Murray
Thirteenth Congressional District

Jose R. Perez
Seventh Congressional District

TECHNICAL COLLEGE
TCSG
SYSTEM OF GEORGIA

Sonny Perdue
Governor

Ronald W. Jackson
Commissioner

May 17, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

As Chair of the State Board of Technical and Adult Education and Commissioner of the Technical College System of Georgia, it gives us great pleasure to express our support for Georgia's Race to the Top (RT3) application.

The State Board of Technical and Adult Education is responsible for establishing standards, regulations and policies for the operation of the Technical College System of Georgia (TCSG), which oversees the state's technical colleges, adult literacy programs and a host of economic and workforce development programs. TCSG provides a unified system of technical education, adult education, and customized business and industry training. Our programs use the best available technology and offer easy access to lifelong education and training for all adult Georgians and corporate citizens.

We strongly believe that Georgia's RT3 plan supports the goals of TCSG. It also creates a transparent environment between all public education entities, while encouraging flexibility and processes that enable every Georgia student to achieve his or her maximum potential. Technical colleges and adult education round out the immense opportunities available to Georgia students, equipping them with the skills they need to compete in the 21st century workforce. To better accomplish our mission, we are committed to implementing Georgia's Race to the Top reform plan to best serve Georgia's students and prepare the next generation.

Thank you for your consideration of Georgia's application.

Sincerely,

Dean Alford, Chairman
TCSG State Board

Ronald W. Jackson, Commissioner

BOARD OF REGENTS OF
THE UNIVERSITY SYSTEM OF GEORGIA

CHANCELLOR ERROLL B. DAVIS, JR.
270 WASHINGTON STREET, S.W.
ATLANTA, GEORGIA 30334

PHONE: (404) 656-2202
FAX: (404) 657-6979
EMAIL: CHANCELLOR@USG.EDU

May 21, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

I write to express my support for Georgia's Race to the Top application on behalf of the University System of Georgia. Our institutions play a vital role in preparing effective teachers for Georgia's schools, and the preparation of teachers is an important element of the Board of Regents' Strategic Plan. Virtually all districts in Georgia choose to employ teachers from USG institutions each year, and the retention rates of these teachers exceed those of non-USG prepared teachers. As such, I am pleased with the application's focus on further enhancement of accountability and quality through deeper partnerships with K-12 schools and through linking preparation programs, via longitudinal data systems, to the achievement of K-12 students.

This is also the perfect opportunity to express my support for the teacher and leader preparation principles included in Georgia's Race to the Top application. The seven principles below are aligned with the Regents' Principles for teacher preparation. The principles aptly capture our commitment to intensifying and innovating in ways that will systematically change and improve teacher preparation.

In light of this, our institutions, which prepare teachers, must:

1. Have as a central mission, the education of teachers who produce better outcomes for students.
2. Provide sustained, systematic, and diverse clinical experiences that are integrated with classroom theory.
3. Prepare candidates to use data to differentiate and improve instruction and boost student learning.
4. Carefully track and evaluate the student achievement impact of their graduates to identify and strengthen effective preparation practices. Georgia must publicly report and link student achievement data to the programs where teachers and leaders were credentialed.
5. Partner with LEAs to create robust partnerships (i.e. teaching academies) in which distinguished teachers mentor pre-service teachers and teacher candidates, including clinical experience in high-need settings. This in turn will drive coursework in classroom management and instructional planning.
6. Conduct a legitimate examination and evaluation of their candidates' ability to produce student learning prior to recommendation for certification.
7. Consider the link between the Georgia Assessment for the Certification of Educators (GACE) results and student achievement over time, requiring all candidates to take the assessment and revising licensing requirements as appropriate.

Raising teacher and leader effectiveness throughout the State of Georgia will continue to be a collaborative effort. Georgia's application brings a diverse group of partners to the table to rethink how resources can best be leveraged and aligned to ensure quality preparation. These partners include universities, alternative providers, K-12 school systems, the Professional Standards Commission, the Department of Education, and others. We cannot operate independently of one another, but rather—to use an old but useful cliché—need to collaborate closely to ensure that the whole is indeed greater than the "sum of the parts."

As a system, we are committed to the best possible education and support for teachers and school leaders at all phases of their professional career. Our commitment includes collaboration and partnerships focused on pre-service education, induction, effective professional development, and research on effective practices. As noted previously, we look forward to the effectiveness data provided through the statewide longitudinal data system. Race to the Top presents us with an unprecedented opportunity to increase the number and intensity of partnerships—we will be able to strengthen connections between pre-service curricula and district-based teacher induction programs. Further, these partnerships will allow the development of mutual accountability among teacher preparation programs and K-12 school systems. We are eager to explore models for these kinds of partnerships, many of which will be made possible by the new Innovation Fund that the State is proposing to create as part of its Race to the Top application.

There are many exciting aspects to Georgia's ambitious Race to the Top reform plan, and we look forward to being a key partner in the implementation of recommendations throughout Race to the Top. Thank you for this opportunity and for giving our state's application your full consideration.

Warmest regards,

Erroll B. Davis, Jr.
Chancellor

C: Governor Perdue

ATLANTA PUBLIC SCHOOLS
Making A Difference

Office of the Superintendent
Beverly L. Hall, Ed.D.
Superintendent
Phone: 404-802-2820
Fax: 404-802-1803

May 20, 2010

The Honorable Arne Duncan
United States Department of Education
400 Maryland Avenue, S.W.
Washington, D. C. 20202

Dear Secretary Duncan:

As Superintendent of Atlanta Public Schools, it gives me great pleasure to express my support for Georgia's Race to the Top (RT3) application. With nearly 50,000 students, Atlanta Public Schools (APS) has faced challenges that are expected in an urban district with a diverse student body. Yet, we have been able to meet many of these challenges head-on through innovative practices and help from community partners.

In APS, we recognize that teacher effectiveness is the single biggest factor in improving student learning. To that end, we have continually explored ways to restructure teacher rewards and compensation for our most effective teachers. We were also the first system in the state to form a robust partnership with Teach for America (TFA), bringing some of the nation's best and brightest minds to teach in Atlanta's classrooms. Georgia's RT# application extends this district work, bringing performance pay statewide and TFA to other high-needs metro districts.

Additionally, APS has created a pipeline of future leaders through the Superintendent's Academy for Building Leaders in Education (SABLE). The State's RT3 reform plan will provide opportunities for local districts across the state to develop alternative pathways for principals. We are committed to helping in the development of these alternative routes in any way that we can and to sharing best practices to help in equipping potential leaders with the skills needed to effectively lead a school.

Finally, understanding that mathematics and science curriculum are instrumental in delivering a world-class education, APS launched one of the largest mathematics and science professional development and curriculum programs in the nation in 2008 with the support of a $22.5 million grant from the GE Foundation. The State has committed to exploring the possibility of scaling this work statewide to support STEM education throughout Georgia.

Thank you for your consideration of Georgia's RT3 application.

Sincerely,

Beverly L. Hall

Beverly L. Hall, Ed.D.
Superintendent

GWINNETT COUNTY PUBLIC SCHOOLS

GWINNETT COUNTY BOARD OF EDUCATION

Dr. Mary Kay Murphy
Chairman
District III

Dr. Robert McClure
Vice Chairman
District IV

Carole Boyce
District I

Louise Radloff
District V

Daniel D. Seckinger
District II

J. Alvin Wilbanks
CEO/Superintendent

THE MISSION OF GWINNETT COUNTY PUBLIC SCHOOLS *is to pursue excellence in academic knowledge, skills, and behavior for each student, resulting in measured improvement against local, national, and world-class standards.*

437 Old Peachtree Road, NW
Suwanee, GA 30024-2978
678-301-6000
www.gwinnett.k12.ga.us

It is the policy of Gwinnett County Public Schools not to discriminate on the basis of race, color, sex, religion, national origin, age, or disability in any employment practice, educational program, or any other program, activity, or service.

May 21, 2010

The Honorable Arne Duncan
Secretary of Education
U. S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202

Dear Secretary Duncan:

Gwinnett County Public Schools (GCPS) is pleased to express support for Georgia's Race to the Top (RT3) application. The State's largest school system, and a finalist for The Broad Prize for Urban Education in both 2009 and 2010, GCPS has remained committed to increasing student achievement in the face of a growing and changing population. Georgia's RT3 plan incorporates many of the principles we believe are at the core of all successful schools—focusing on teacher and leader effectiveness and using data as a foundation for improvement efforts.

Georgia has provided numerous opportunities for local education agencies to innovate in delivering education and student services to their specific populations. Our school system was the first to partner with the State through an "Investing in Educational Excellence" contract, acquiring increased district operational flexibility in exchange for increased student achievement accountability. The State's RT3 plan builds on this foundation, providing districts with partnership opportunities to move student achievement to new levels and to turn around the State's poorest performing schools. GCPS has proudly submitted a memorandum of understanding to partner with Georgia in this work.

Additionally, the State's RT3 reform plan allows local districts to develop alternative pathways for principals. Members of Georgia's RT3 team visited Gwinnett to learn more about our locally developed "Quality-Plus Leader Academy," which prepares future GCPS leaders with the knowledge and skills to lead world-class schools and improve academic achievement for all students. We look forward to continuing to share the best practices of this program with the State as it promotes the development of effective leaders across Georgia and establishes alternative preparation programs for principals through the Georgia Professional Standards Commission.

I was honored to serve on the State's RT3 Critical Feedback Team, which reviewed the State's application, and am proud of the results of our work. Gwinnett County Public Schools strongly supports Georgia's RT3 reform plan, and we are excited about the opportunity to partner with the State to improve academic achievement for all students.

Thank you for giving Georgia's RT3 application your full consideration

Sincerely,

J. Alvin Wilbanks
CEO/Superintendent

JAW/gsd

May 19, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

As Georgia's Race to the Top partnering local school systems, we are proud to express our support for the state's Race to the Top application.

We represent a great number of Georgia's schools, students and educators , as well as the majority of Georgia's minority population. Our group is geographically diverse, and each of our systems has different strengths and faces unique challenges. We represent some of the largest systems in the state and some of the smallest, urban and rural, racially diverse and homogenous. We know the challenges associated with improving student achievement in the face of an ever growing and changing urban population. We also know how difficult it can be to provide opportunities and ensure that all students are served by highly effective teachers in the most remote areas of our state.

No matter the trial, we are committed to driving student achievement. Georgia's Race to the Top addresses our unique challenges and incorporates principles that we believe are at the core of all successful schools, focusing on teacher and leader effectiveness and using data as a foundation for improvement efforts. Georgia's Race to the Top plan provides unique partnership opportunities for us to move student achievement to new levels and to turn around the state's poorest performing schools.

We commit to bringing our strengths to this work, to learning from other systems and ultimately helping Georgia bring these reforms statewide by working with our neighboring districts. We will use the Race to the Top work to help all Georgia schools improve academic achievement for all students.

We strongly support Georgia's Race to the Top reform plan and we are excited about the opportunity to partner with the state to improve student achievement not only within our systems, but across the state.

Sincerely,

Beverly Hall, Superintendent
Atlanta Public Schools

Nancy Whidden, Superintendent
Ben Hill County Public Schools

Sylvia McGee, Superintendent
Bibb County Public Schools

Linda Bailey, Superintendent
Burke County Public Schools

Kent Edwards, Superintendent
Carrolton City Schools

Thomas Lockamy, Superintendent
Chatham County Public Schools

Dr. Frank R. Petruzielo, Superintendent
Cherokee County Public Schools

Ed Heatley, Superintendent
Clayton County Public Schools

Patty Priest, Superintendent
Dade County Public Schools

Ramona Tyson, Superintendent
DeKalb County Public Schools

Sally Whatley, Superintendent
Dougherty County Public Schools

Merrianne Dyer, Superintendent
Gainesville City Schools

J. Alvin Wilbanks, Superintendent
Gwinnett County Public Schools

Will Schofield, Superintendent
Hall County Public Schools

Michael Surma, Superintendent
Henry County Public Schools

Mike Newton, Superintendent
Jones County Public Schools

Carol Lane, Superintendent
Meriwether County Public Schools

Susan Clark, Superintendent
Peach County Public Schools

Janis Sparrow, Superintendent
Pulaski County Public Schools

Robert Arthur, Superintendent
Rabun County Public Schools

Dana Bedden, Superintendent
Richmond County Public Schools

Samuel King, Superintendent
Rockdale County Public Schools

Curtis Jones, Superintendent
Spalding County Public Schools

William Cason, Superintendent
Valdosta City Schools

Paul Shaw, Superintendent
White County Public Schools

at&t

Sylvia Eugene Russell
President – Georgia

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Atlanta, GA 30375

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May 17, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

On behalf of AT&T Georgia, I would like to express my support for Georgia's Race to the Top application.

The state of Georgia has committed significant resources to reforming and improving education and has made considerable progress in improving the graduation rate and overall student achievement. This commitment is part of what has drawn over a dozen Fortune 500 companies to the state, and thousands of additional small businesses. The Race to the Top funds will build on this strong foundation, move achievement in Georgia to new heights, and continue to draw increasingly diverse and prosperous industries.

The state has created a comprehensive agenda that articulates their goals for implementing reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. We believe the Race to the Top funds will allow Georgia to ensure that every student in our state receives a world-class education.

At AT&T, we know investing in a well-educated workforce may be the single most important thing we can do to help America remain the leader in a digital, global economy. To do our part to help address this issue, we launched AT&T Aspire, a philanthropic program to help strengthen student success and workforce readiness. It's important that we help connect the dots between what students learn in school and the skills they need in the workplace.

Thank you for this opportunity and for giving Georgia's application your full consideration.

Sincerely,

Sylvia Russell
President – AT&T Georgia

John G. Rice
Vice Chairman of GE

4200 Wildwood Parkway
Atlanta, GA 30339
USA

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F +1 678 844 7925
john.rice@ge.com

May 20, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Dear Secretary Duncan:

On behalf of GE, as well as personally, I appreciate this opportunity to write to you in support of Georgia's Race to the Top application.

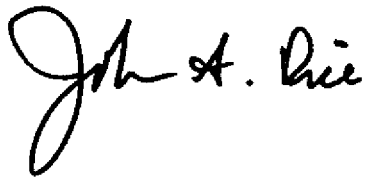
For over a decade, Georgia has committed significant resources to reforming and improving education in our state and has made considerable progress in improving the graduation rate and overall student achievement. This commitment is part of what has drawn over a dozen Fortune 500 companies to our state, and thousands of additional small businesses. The Race to the Top funds will build on this strong foundation, move achievement in our state to new heights, and continue to draw increasingly diverse and prosperous industries.

In our state's application, you will find a comprehensive agenda that clearly articulates our goals for implementing reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. We believe the Race to the Top funds will allow Georgia to ensure that every student in our state receives a world-class education that equips them with the skills needed to compete in the 21st century global workforce.

As you know, GE has a long commitment to education, and our support of Georgia's application is yet another way that we can continue that commitment. Should Georgia be awarded one of the Race to the Top grants, GE would be honored to help Georgia in several ways. First, we would be happy to serve as partners with the State as it develops a communication and public awareness campaign plan. Additionally, our Company would volunteer to partner with the State regarding the development of strategies around college readiness and career preparation. Moreover, GE would be pleased to continue leveraging on a state-wide basis the curriculum improvement work occurring in the Atlanta Public Schools with GE Foundation's Developing Futures in Education grant.

In closing, please understand that the entire business community is strongly behind Georgia's Race to the Top reform plan, and I give it my personal, wholehearted endorsement. Thank you for this opportunity and for giving our State's application your full consideration.

Sincerely,



Georgia Chamber of Commerce

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www.gachamber.com

Suzanne Sitherwood
2010 Chair

George M. Israel, III
President & CEO

May 21, 2010

The Honorable Arne Duncan
Secretary, U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

Earlier this year, your office recognized Georgia's significant achievements in education reform with a strong finish in the initial round of Race to the Top (RT3) grant funding. As you consider our state's second-round application, we'd like to take this opportunity to reiterate our strong belief that RT3 represents an excellent opportunity to build on that success.

Georgia's commitment to better educational opportunities and outcomes for millions of current and future students has already produced considerable improvement in both our graduation rate and overall student achievement. These improvements have helped attract over a dozen Fortune 500 companies to our state, as well as thousands of successful small and midsize businesses. Higher academic standards, greater flexibility and initiatives like Georgia Work Ready -- an innovative partnership between our Chamber and the state -- are helping Georgia students become the better-educated, well-qualified workforce employers need to compete in today's global economy.

RT3 will build on this strong foundation, moving achievement in our state to new heights and attracting increasingly diverse and prosperous industries. As indicated by your office, Georgia's RT3 reform plan compares favorably to that of any other state competing in this second round. Our roadmap for implementing reforms in RT3's four assurance areas is clear and comprehensive, as is our path to achieving and sustaining those goals. For example, the development of a comprehensive student data system -- critical to assessing and incentivizing the performance of students and educators -- is well under way. RT3 funding will allow Georgia to refine and perfect this system.

There is no question that RT3 will help our state provide our students with a world-class education that equips them for the high-wage, high-demand jobs of the 21st century. We offer our strong support for Georgia's application, and we thank you once again for your consideration.

Sincerely,

George M. Israel III
President & CEO

Charles K. Tarbutton
Chairman, Education & Workforce Development Committee

Georgia Public Broadcasting
Television | Radio | Education

May 24, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

On behalf of Georgia Public Broadcasting, it gives me and the members of my organization great pleasure to express our support for Georgia's Race to the Top application.

Georgia has created a comprehensive agenda that clearly articulates our state's goals for implementing reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. We believe the Race to the Top funds will allow Georgia to close the achievement gap and ensure that every student in our state receives a world-class education that prepares them to enter the 21st century global workforce.

Georgia has committed significant resources to reforming and improving education in our state and has made considerable progress in improving the graduation rate and student achievement. The Race to the Top funds will build on this strong foundation and move achievement in our state to new heights.

Georgia Public Broadcasting has both a mission and commitment to serve and strengthen the preK-12 educational system in our state which we fulfill by partnering with the Georgia Department of Education and all of Georgia's state education agencies and our 180 school districts. GPB's professional development services help improve teacher quality by helping teach teachers how to effectively utilize technology; and our digital media resources are aligned to content standards and used by teachers and students throughout the state to bring relevance and application to the classroom, especially in STEM content areas.

I strongly support Georgia's Race to the Top reform plan. Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

Teya Ryan
President and Executive Director
Georgia Public Broadcasting

IBM

4111 Northside Parkway
Atlanta, GA 30327

May 17, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202

Dear Secretary Duncan:

It gives the members of my organization and me great pleasure in expressing our support for Georgia's Race to the Top application.

Georgia has committed significant resources to reforming and improving education in our state and has made considerable progress in improving the graduation rate and overall student achievement. This commitment is part of what has drawn over a dozen Fortune 500 companies to our state, and thousands of additional small businesses. The Race to the Top funds will build on this strong foundation, move achievement in our state to new heights, and continue to draw increasingly diverse and prosperous industries.

Our state has created a comprehensive agenda that clearly articulates our goals for implementing reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. We believe the Race to the Top funds will allow Georgia to ensure that every student in our state receives a world-class education that equips them with the skills needed to compete in the 21st century global workforce.

The business community is strongly behind Georgia's Race to the Top reform plan, and I give it my personal, wholehearted endorsement. Many thanks for this opportunity and for giving our state's application your full consideration.

With kindest regards to you, I am

Sincerely,

Ann

Many thanks!

Ann W. Cramer
Director Americas
Corporate Citizenship and Corporate Affairs

Metro Atlanta Chamber

May 17, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

It gives the members of my organization and me great pleasure in expressing our support for Georgia's Race to the Top application.

Georgia has committed significant resources to reforming and improving education in our state and has made considerable progress in improving the graduation rate and overall student achievement. This commitment is part of what has drawn over a dozen Fortune 500 companies to our state, and thousands of additional small businesses. The Race to the Top funds will build on this strong foundation, move achievement in our state to new heights, and continue to draw increasingly diverse and prosperous industries.

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The business community is strongly behind Georgia's Race to the Top reform plan, and I give it my personal, wholehearted endorsement. Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

Joy Hawkins
Vice President, Education

STATE OF GEORGIA
OFFICE OF THE GOVERNOR
ATLANTA 30334-0900

Sonny Perdue
GOVERNOR

Debra M. Lyons,
Executive Director
GOVERNOR'S OFFICE of
WORKFORCE DEVELOPMENT

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

As the executive director for the Governor's Office of Workforce Development, I want to express the support of our agency for Georgia's Race to the Top application.

Our state has created a comprehensive agenda that clearly articulates our goals for implementing reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. We believe the Race to the Top funds will allow Georgia to close the achievement gap and ensure that every student in our state receives a world-class education that prepares them to enter the 21st century global workforce.

Georgia has committed significant resources to reforming and improving education in our state and has made considerable progress in improving the graduation rate and student achievement. The Race to the Top funds will build on this strong foundation and move achievement in our state to new heights.

I strongly support Georgia's Race to the Top reform plan. Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

Debra M Lyons

Debra M. Lyons
Executive Director
Governor's Office of Workforce Development

2 Martin Luther King Jr. Dr., SW, 606 West Tower, Atlanta, GA 30334 ▪ Telephone: (404) 463-5283 FAX (404) 463-5043

GAMG

Georgia Association of Museums and Galleries

May 18, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

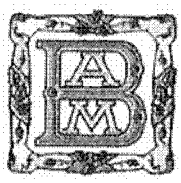
The Georgia Association of Museums and Galleries represents hundreds of museum professionals and art, history, natural history, and science museums across the state of Georgia. Together, our members provide training and professional development to thousands of teachers and outreach and educational programming to hundreds of thousands of Georgia's students. These formal and informal learning opportunities are vital to successful educational innovation and reform in Georgia.

Therefore, we whole-heartedly support Georgia's application for *Race to the Top* grant funding and look forward to being contributing partners in support of its goals. The educational missions of the museums and galleries of Georgia parallel those of our schools and teachers and are dedicated to providing high quality and accessible training and experiences that will help meet the wide variety of needs in our teachers and students. Our members represent a very large investment of staff, facilities, and programming that will be an important supplement to Race to the Top funding in Georgia. Likewise, our members represent a significant conduit for public/private partnerships that ensure Georgia's vision and implementation of educational innovation and reform is broad based throughout our state and communities.

Sincerely,

Brent W. Tharp, Ph.D.
President

P.O. Box 2133
Marietta, GA 30061
www.gamg.org



THE ARTHUR M. BLANK FAMILY FOUNDATION

PENELOPE MCPHEE
PRESIDENT

May 21, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

On behalf of the Board of Trustees of The Arthur M. Blank Family Foundation, I am writing to express our support for Georgia's Race to the Top application. I, along with the Blank Foundation's senior program officer for education, have personally participated on Georgia's Low Performing Schools Advisory Committee. We are enthusiastic about the manner in which our state's education leaders have engaged other stakeholders to develop a promising Race to the Top blueprint.

The Arthur M. Blank Family Foundation is committed to fostering opportunities for low-income children and their families. By addressing their needs during the earliest stages of life (ages 0-5) and also during the high school years, the Foundation seeks to provide them with better beginnings and pathways to success after high school. The Foundation is proud to offer ongoing support to Georgia's efforts as a thought partner and to consider funding support in the future if Georgia receives Race to the Top funding. The Foundation has a long history with Atlanta Public Schools, and we are certain that Race to the Top can leverage and sustain the best practices happening in Atlanta and extend them to the rest of Georgia.

Georgia is in a unique position to be a national model for its investment in early childhood and postsecondary readiness. Dr. Beverly Hall's track record of success with elementary schools through comprehensive reform and her early success in transforming Atlanta's high schools to ensure that all students are prepared for college and career have created momentum for Atlanta and continue to hold promise for the rest of Georgia.

3223 HOWELL MILL ROAD, NORTHWEST · ATLANTA, GEORGIA 30327
TELEPHONE 404-367-2055 · FACSIMILE 404-367-2056 · www.blankfoundation.org

Georgia's Race to the Top plan focuses on regional clusters and feeder patterns as a way to maximize our state's ability to turn around its lowest performing schools. The Arthur M. Blank Family Foundation, along with the entire philanthropic community, is proud to support Georgia's Race to the Top application and stand ready to implement this bold and comprehensive plan.

Sincerely,

Penelope McPhee
President, The Arthur M. Blank Family Foundation

701 St. Paul Street
Baltimore, MD 21202
www.aecf.org

PHONE 410-547-6600
FAX 410-547-6624

The Annie E. Casey Foundation

May 21, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

On behalf of the Annie E. Casey Foundation, I write to express our strong support for the State of Georgia's Race to the Top (RTTT) application.

Georgia's RTTT application commits the state to a serious, far-reaching and promising effort to strengthen public education in Georgia in ways that will produce both improved student outcomes and improved educator effectiveness. Georgia's school turnaround plan for the state's lowest achieving schools focuses on regional clusters and feeder patterns to target students that are perpetually underserved, from pre-school through high school. We believe that this approach will help Georgia to narrow the readiness gap and, over time, the achievement gap.

Our support for this application is encouraged by Georgia's assurance that its efforts will be organized around and driven by meaningful measureable results, including a significant increase in the number and proportion of Georgia public schools student who meet and exceed the norms for grade level reading by the end of third grade. We also are encouraged by Georgia's pragmatic willingness to bridge the various programmatic concerns to develop a truly integrated and aligned array of services and supports for children birth to age eight (0-8). This focus on results and the 0-8 approach led us to choose Georgia as a key partner state for a multi-foundation initiative seeking to move the needle on grade level reading.

Our support for Georgia is driven by more than two decades of work promoting, supporting and investing in efforts to improve outcomes for vulnerable children, families, and communities in Georgia. Those experiences give us the depth of understanding, breadth of relationships, and confidence to conclude that Georgia is an ideal state for investment in comprehensive, data-based, and results-oriented education reform.

With *New Futures* (1989-1995), Casey partnered with the city of Savannah, Chatham County, community leaders, and service providers to improve the services and opportunities available to some of the city's poorest residents with the goals of reducing school dropout, teen

pregnancy and young adult unemployment. Youth Futures Authority (YFA), the collaborative body established through that initiative (and co-funded by Casey for more than a decade after *New Futures* ended), became a driving force for identifying issues, gathering data, establishing priorities and addressing long-term policies to make schools and other agencies less fragmented, more responsive and better able to help children achieve positive outcomes. A national, Casey-funded analysis of chronic absence in 2008 found that K-3 students in Savannah had the lowest levels of all nine school districts studied.

Atlanta was one of the original planning and demonstration sites for ***Plain Talk*** (1993-1998), Casey's initiative to reduce rates of teen pregnancy and sexually transmitted disease by organizing parents and other community adults to educate youth about the consequences of sexual behavior and by improving the policies and practices of health care agencies that serve adolescents.

Atlanta and Savannah both participated in ***Making Connections***, Casey's initiative to strengthen vulnerable families and disinvested communities. In Savannah, this featured a workforce development project; a cross-sector poverty reduction task force involving 80 local organizations that share data and take collective action; an asset development coalition; a collaborative to strengthen health care infrastructure; an alliance of resident leaders; and participation in a national coalition designed to develop and share innovative solutions to poverty. In Atlanta, *Making Connections* has been especially active in improving education for Atlanta's low-income students. Casey's initial investment in the Atlanta Public Schools supported the implementation of Project GRAD, a comprehensive K-12 school reform program. Casey funding supported the second cohort of Project GRAD schools in south Atlanta (Gideons Elementary, Parks Middle, and Carver High School). Two of these schools – Parks Middle and Carver High School – were among the two lowest-performing schools in the district and were high-priority schools in the Foundation's targeted neighborhoods. Parks Middle School made AYP for the 2006-2007 school year and has become one of the highest-performing middle schools in Atlanta and Georgia. Read about this success story in *"Beating the Odds at Atlanta's Parks Middle School"* available at http://www.diaristproject.org/file2/Atlanta%20Parks%201-22-08.pdf.

The Annie E. Casey Foundation's long history and experience of partnership in Georgia inspire our confidence in Georgia's RTTT application and in Georgia's ability to fulfill its promise to produce improved student outcomes and teacher effectiveness and a generation prepared to succeed in school and in a global economy.

Sincerely,

Ralph Smith
Executive Vice President

Communities In Schools
HELPING KIDS STAY IN SCHOOL AND PREPARE FOR LIFE

May 17, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

It gives me and the entire membership of Communities In Schools in Georgia great pleasure to express our support for Georgia's Race to the Top application. Communities In Schools is a close partner with the state of Georgia in efforts to reduce the numbers of students dropping out of school. Together, with the Governor's Office, the Georgia Department of Education and other local and statewide organizations, we have made significant progress increasing the high school graduation rate.

Nevertheless, we are fully committed to doing more. To that end we are enthusiastically supporting the Georgia Race to the Top application because the Georgia plan will add significantly to our state's progress which seeks a high school diploma and a college or workforce success for every student.

To this end, our state has created a comprehensive agenda that clearly articulates our goals for implementing reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. We believe the Race to the Top funds will allow Georgia to close the achievement gap and ensure that every student in our state receives a world-class education that prepares them to enter the 21st century global workforce.

Georgia has committed significant resources to reforming and improving education in our state and has made considerable progress in improving the graduation rate and student achievement. The Race to the Top funds will build on this strong foundation and move achievement in our state to new heights.

I strongly support Georgia's Race to the Top reform plan. Thank you for this opportunity and for giving Georgia's application your full consideration.

Sincerely,

Neil Shorthouse, president
Communities In Schools of Georgia

COMMUNITIES IN SCHOOLS OF GEORGIA
One Georgia Center • 600 W. Peachtree Street, Suite 1200, Atlanta, Georgia 30308 • Tel 404.888.5784 • Fax 404.888.5789 • 800.838.5784 • www.cisga.org

GEORGIA AFTERSCHOOL INVESTMENT COUNCIL

May 14, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

On behalf of the Georgia Afterschool Investment Council (GAIC), I am pleased to express our support for Georgia's Race to the Top application.

Our state has created a comprehensive agenda that clearly articulates our goals for implementing reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. We believe the Race to the Top funds will allow Georgia to close the achievement gap and ensure that every student in our state receives a world-class education that prepares them to enter the 21st century global workforce.

Georgia has committed significant resources to reforming and improving education in our state and has made considerable progress in improving the graduation rate and student achievement. The Race to the Top funds will build on this strong foundation and move achievement in our state to new heights.

Thank you for your vision in offering states the opportunity to apply for this opportunity. I strongly support Georgia's Race to the Top reform plan and for giving our state's application your full consideration.

Sincerely,

Jill J. Riemer
Executive Director

GLISI

Georgia Leadership Institute
for School Improvement
760 Spring Street, Atlanta, GA 30308
404-385-4040 / FAX 404-385-4151
www.glisi.org

May 18, 2010

The Honorable Arne Duncan
United States Department of Education
400 Maryland Avenue SW
Washington, D. C. 20202

Dear Secretary Duncan:

It is an honor to support Georgia's Race to the Top re-application. Georgia's placement in the first federal review speaks to the rigor of Georgia's Reform Plan and to the state's capacity to implement a comprehensive reform agenda. Georgia has made significant strides in improving student outcomes and is poised to adopt the Common Core State Standards. Its STEM focus and longitudinal data system were strengths in Georgia's first application. Areas for improvement included the inclusion of stakeholders and a more detailed, systemic, comprehensive plan for developing great teachers and leaders.

May 17, 2010 marked the second convening of stakeholders to which GLISI was invited. We are convinced that Georgia is reaching out to a wide spectrum of key stakeholders to ensure that groups understand and contribute to refining the Georgia strategy – beginning with a small, committed group of districts and learning forward in an ever inclusive cycle of bringing more districts on board, while consistently extending learning opportunities to all. Stakeholders have been able to ask questions openly and receive information honestly about Georgia's Reform Plan and how it will ensure that Georgia's students are college and career ready.

Georgia is poised to lead the nation in developing and supporting Great Teachers and Great Leaders. Due to 10 years of Wallace Foundation investment, Georgia has become a model of a Cohesive Leadership System wherein all key stakeholders in improving education leadership share a common vision for high performing leaders equipped to lead teams of teachers in improving student achievement, organization effectiveness, student and stakeholder engagement and team learning and growth. By taking a systemic approach and by leveraging proven processes, Georgia is ready to expand current alternative certification pathways for both teachers and leaders.

Georgia is making headway in involving teachers and associations in discussions about the best ways to link student achievement and teacher performance to ensure teacher buy-in. Further, Georgia leaders are seeking ways to connect and focus current leadership development efforts and will establish criteria by which to select proven providers who are equipped to prepare leaders to create the conditions for teacher success, a key driver in creating the conditions for student success. Georgia knows that

Georgia Leadership Institute
for School Improvement
760 Spring Street, Atlanta, GA 30308
404-385-4040 / FAX 404-385-4151
www.glisi.org

leadership matters and performance counts. Its plan leverages research-based and innovative strategies that will create a strong foundation for building the capacity of teachers and leaders at all stages of the career continuum to lead Georgia's students in achieving post-secondary options of choice and creating a quality life that lead to a strong Georgia economy and a strong American citizenry.

Specifically, resources dedicated in this award will improve conditions for school leaders in our state and will ultimately lead to improved outcomes for Georgia's students. Georgia has committed significant resources to transforming education and to preparing students to be successful in college and the workforce in the 21st century.

The GLISI staff and I fully support Georgia's Race to the Top Reform Plan and stand ready to support its full implementation. I urge you to look with favor upon Georgia's RT3 re-application.

Sincerely,

Gale Hulme
Executive Director

GEORGIA PARTNERSHIP
FOR EXCELLENCE IN EDUCATION

233 PEACHTREE STREET, SUITE 2000
ATLANTA, GEORGIA 30303
TEL 404/223-2280 FAX 404/223-2299
www.gpee.org

May 14, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Secretary Duncan:

On behalf of the Georgia Partnership for Excellence in Education, I am pleased to express my support for Georgia's Race to the Top application.

Across the state and across sectors, leaders in Georgia recognize the importance of excellence in our public school system. In recent years, our state has made great strides to reduce the rate of dropouts, strengthen the value of the high school diploma, and improve the educational opportunities and outcomes of all students.

The Georgia Partnership has been pleased to work collaboratively alongside state education agencies and other business and community organizations to help advance policies and reforms that are helping our state reach the goal of a world-class education that prepares every student to enter the 21st century global workforce. We believe the Race to the Top funds will allow Georgia to carry our collaborative and innovative work to the next level and close achievement gaps, strengthen our teacher and leader workforce, and improve our schools.

Georgia has committed significant resources to reforming and improving education in our state and has made considerable progress in reaching our goals. The Race to the Top funds will build on this strong foundation and move achievement in our state to new heights.

I strongly support Georgia's Race to the Top reform plan. Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

Stephen D. Dolinger
President

May 18, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

It gives me and the members of my organization great pleasure to express our support for Georgia's Race to the Top application.

The Junior League of Atlanta, Inc. ("JLA"), is an organization of women committed to promoting voluntarism, developing the potential of women, and improving the community through the effective action and leadership of trained volunteers. One of our strategic plan goals is focused on transforming communities by empowering women and children at risk to become self-reliant. To fulfill our mission and fill unmet needs in our community, the JLA recently adopted a League initiative focused on improving the quality of early childhood education for at risk children in the Atlanta metropolitan area.

Georgia's Race to the Top plan encompasses the goals and focus areas of the JLA. By ensuring that every student is served by highly effective teachers and leaders, we believe Georgia can improve student learning and ultimately, close the achievement gap in this state.

Having worked closely with the state's education agencies on our early childhood initiative, we know the importance of ensuring that every student is taught to value learning from birth and that this value is continually emphasized throughout their education. We believe that Georgia's Race to the Top application will serve all Georgia students from the very beginning of their education and will help equip them with the skills they need to be college and career ready. Ultimately, this plan will improve not only the state of education in Georgia but will also provide Georgia with a talented, educated work force that will improve the state's economy for years to come.

Thank you for this opportunity to support Georgia's Race to the Top application and for giving Georgia's application your full consideration.

Sincerely,

Audra A. Dial, President

3154 Northside Parkway, N.W. Atlanta, Georgia 30327-1597 678 916-3100 Fax 404 814-0656 www.jlatlanta.org

ADVANCING RESEARCH
SEDL
IMPROVING EDUCATION

May 25, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

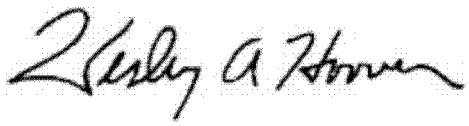
Dear Secretary Duncan:

SEDL strongly supports the Georgia application for Race to the Top funding in order to further the state's efforts to create a world class educational experience for all its students. Georgia has been implementing effective reforms aligned with the goals of Race to the Top: implementation of student performance standards; use of data to improve instruction in standards-based classrooms; providing leadership training for administrators, school teams, and teachers in struggling schools; and supporting improvement strategies in failing schools that have resulted in their being removed from Needs Improvement status.

SEDL has worked with the Georgia Department of Education, its Regional Education Service Centers, The Alliance of Education Agency Heads, and various local education agencies since 1995 in our role as a federally-supported comprehensive service center (SEACAC) and a regional comprehensive center (SECC). Through this work, we have witnessed the strong commitment Georgia educators, and the Department in particular, have for doing what is best for children.

We believe Georgia has laid out a bold, achievable reform agenda and we would look forward to working with the Georgia Department of Education and the partners it has enlisted to support the extensions of its reform efforts through Race to the Top.

Sincerely,



Wesley A. Hoover, PhD
President and CEO

Cc: Dr. Martha Reichrath

Voice: 800-476-6861
Fax: 512-476-2286
www.sedl.org
4700 MUELLER BLVD., AUSTIN, TX 78723

ROBERT W. WOODRUFF FOUNDATION, INC.
50 HURT PLAZA
SUITE 1200
ATLANTA, GEORGIA 30303
404/522-6755 FAX: 404/522-7026

May 17, 2010

The Honorable Arne Duncan
Secretary of the US Department of Education
400 Maryland Avenue, SW
Washington, DC 20202

Dear Secretary Duncan:

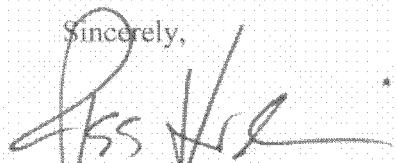
We are pleased to express our support for the State of Georgia's application for the second round of Race to the Top funding. For decades, committed philanthropic and nonprofit organizations have been working toward school reform in Georgia. This is an unprecedented opportunity for the state to build upon progress already made to significantly advance student achievement. We believe our state is uniquely qualified to receive these funds and has the appropriate leadership and community support in place to successfully implement a reform agenda.

Georgia has made great strides in improving the quality of its education system and ensuring greater alignment from pre-K through 20. The improvement is measurable by higher scores on state and national assessments and an increase in graduation rates from 69.4% in 2005 to 78.9% in 2009. However, we recognize there is still significant work to be done. The Race to the Top funds will allow Georgia to accelerate its efforts to ensure every student in the state has access to a world-class education. We have been impressed with the comprehensive plan the state has developed that clearly articulates its goals for implementing reform in the four assurance areas of Race to the Top with an increased emphasis on improving leader preparation and statewide scalability.

The Robert W. Woodruff Foundation is part of a family of foundations that includes the Joseph B. Whitehead Foundation. Over the past two decades, these Foundations have invested millions of dollars in improving public education in the City of Atlanta and across the state, including support of Communities in Schools of Georgia, Teach for America, KIPP Metro Atlanta, Georgia's Leadership Institute for School Improvement and the Georgia Partnership for Excellence in Education. The Foundation remains committed to continued investments in these activities and other reform efforts that are aligned with the priorities of Race to the Top.

We appreciate the important role the Department of Education is playing in encouraging academic innovation through Race to the Top. Thank you for giving the State of Georgia's application full consideration.

Sincerely,



P. Russell Hardin
President

The General Assembly
Atlanta, Georgia 30334

May 20, 2010

Dear Mr. Secretary:

We, representing leadership in the Georgia General Assembly, write to express our support for Georgia's Race to the Top (RT3) application.

Georgia's RT3 reform plan articulates a comprehensive agenda detailing goals for reforms in the four assurance areas, as well as a clear and credible path to achieving and sustaining those goals long-term. As leadership in the Georgia State Senate and the Georgia House of Representatives, we are committed to passing legislation necessary to implement Georgia's reform plan.

The Georgia General Assembly has long been committed to education innovation and reform. In the last few years we have passed legislation to increase flexibility at the local level and options for Georgia students, as we believe that a one-size-fits-all education model is a barrier to success. In 2008, we passed the "Investing in Educational Excellence Partnership" (IE^2) legislation. The IE^2 Partnership allows local school systems to voluntarily enter into an agreement with the state to set up a system of performance contracts that allow for greater flexibility in return for increased accountability.

Georgia is a charter-friendly state with no legal barriers restricting the number of charters that may operate within the state. We believe charters are innovative public schools providing choices for Georgia students and families. In 2008, we passed legislation creating the Georgia Charter Schools Commission. This legislation provides an additional avenue for the creation of charter schools while maintaining the state's high standards of accountability.

Recognizing that the teacher plays the single biggest role in impacting student achievement, we have passed legislation to reward Georgia's effective teachers and keep them in the classroom. Georgia's Master Teacher program provides a career ladder for teachers who have demonstrated success in improving student learning. We also convened the Joint Study Committee on Teacher Training and Certification, which led to the Georgia Professional Standards Commission's adoption of new and more efficient alternative routes to certification. Additionally, this committee championed Math/Science differentiated pay legislation, passed in 2009, which encourages future teachers to enter math and science fields by paying newly certified math and science teachers as if they are fifth-year teachers.

We strongly support Georgia's Race to the Top plan and commit to doing our part to see that these reforms are enacted. Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

Brooks Coleman, Chairman
Georgia House of Representatives Education Committee

Jan Jones, Speaker Pro Tempore
Georgia House of Representatives

Dan Moody, Chairman
Georgia Senate Education Appropriations Committee

Dan Weber, Chairman
Senate Education Committee

Georgia Institute of Technology

May 17, 2010

Dear Mr. Secretary:

The Center for Education Integrating Science, Mathematics, and Computing (CEISMC) writes in support of Georgia's Race to the Top (RT3) application.

CEISMC is a partnership uniting the Georgia Institute of Technology with educational groups, schools, corporations, and opinion leaders throughout the state of Georgia. Our goal is to ensure that K-12 students in Georgia receive the best possible preparation in science, mathematics, engineering, and technology (STEM) as they seek their place in the modern world.

Research supports the belief that the economic competitiveness of Georgia and the United States as a whole will be determined by the preparedness of our future work force—the students of today—in the fields of science, mathematics, engineering, and technology. CEISMC and its partners are dedicated to igniting the spark that inspires children of all backgrounds to the possibility of STEM careers and to become involved and intrigued in the STEM issues of modern life.

Through RT3, CEISMC will partner with Georgia to provide a wide range of services intended to motivate teachers and students in STEM education. By providing 21st Century teacher professional development in STEM, engaging STEM contexts and courses, and access to advanced STEM courses, CEISMC will help strengthen teachers' content understanding and pedagogical skills, provide contextualized tasks and STEM examples that effectively engage 21st Century learners, and provide students, especially those from groups underrepresented in STEM, with learning opportunities that encourage them to pursue advanced studies in STEM fields.

Through partnership with the state, CEISMC will help Georgia more effectively implement the Georgia Performance Standards and the common core, and engage students and teachers in STEM fields that are so important to the future competitiveness of our nation.

Sincerely,

Richard S. Millman, Ph. D.
Director and Professor of Mathematics

Center for Education Integrating Science, Mathematics & Computing
Atlanta, Georgia 30332-0282 U.S.A.
www.ceismc.gatech.edu
PHONE: 404 894-0777
FAX 404 894-9675

A Unit of the University System of Georgia An Equal Education and Employment Opportunity Institution

One day, all children in this nation will have the opportunity to attain an excellent education.

TEACHFORAMERICA

May 20, 2010

The Honorable Arne Duncan
Secretary of the U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202

Dear Mr. Secretary:

Teach For America-Atlanta takes great pleasure in expressing our support for Georgia's Race to the Top (RT3) application.

For years, the state has encouraged Teach For America to expand their corps to other areas of Georgia, but with limited resources such a commitment was not possible. We can now proudly state that we will partner with Georgia to expand Teach For America's teacher corps throughout the metro area, with a focus on Georgia's lowest achieving schools. By strategically placing a critical mass of highly effective Teach For America teachers within these schools and implementing RT3 reform measures to focus all educators on student achievement, we believe Georgia can turn these schools around.

I was privileged to serve as a member of Georgia's Race to the Top Great Teachers & Leaders Task Force, providing input and feedback in developing Georgia's teacher and leader effectiveness measures and its overall application. Through this work, I can say with confidence that Georgia's RT3 application is closely aligned with the core practices and principles of Teach For America, with a premise that all students are capable of achieving and all educators are expected to help them do so.

Thank you for this opportunity and for giving our state's application your full consideration.

Sincerely,

Kwame A. Griffith
Executive Director
Teach For America - Atlanta

AN AMERICORPS PROGRAM

10 Peachtree Place, NE, 7th Floor • Atlanta, GA 30309 • T 404-688-9843 F 404-688-9850 • www.teachforamerica.org

THE UTEACH INSTITUTE

The University of Texas at Austin | 1 University Station–G2550 Austin, TX 78712-0549 | OFFICE Painter Hall 4.20 WEB uteach-institute.org | PHONE 512 232 2770 FAX 512 232 1491

May 18, 2010

Arne Duncan, Secretary
U.S. Department of Education
Washington, D.C. 20202

Dear Mr. Secretary:

The UTeach Institute takes great pleasure in supporting Georgia's Race to the Top (RT3) application.

UTeach started at The University of Texas at Austin in 1997 as a new way to prepare secondary science, math and computer science teachers. Through collaboration between the Colleges of Natural Sciences and Education, the UTeach program has been able to combat the chronic shortage of effective science, math, engineering and technology (STEM) teachers that Texas faced. Since inception, The University of Texas at Austin has doubled the number of STEM majors certified to teach in secondary classrooms.

The UTeach program has been prove to be extremely effective – 92 percent of those certified are immediately hired as mathematics or sciences teachers and 82 percent of UTeach graduate hires are still teaching after five years, compared with fewer than 65 percent nationally reported in a 2004 Schools and Staffing Survey. With the program's success, the UTeach Institute was created to provide direction and leadership to expand and replicate the UTeach program at universities across the nation.

Like Texas and many other states across the nation, Georgia has also faced a critical shortage in is supply of effective STEM teachers, especially in rural areas of the state. There has been interest from several universities in bringing UTeach to their institutions, but lack of funding did not allow such a partnership until now.

The UTeach Institute will proudly partner with Georgia in their RT3 work to implement four UTeach programs at universities across the state. Through this partnership, the UTeach Institute will help select and provide support to qualified replication sites: planning for implementation of the UTeach program; giving guidance and technical assistance with the implementation of the UTeach Elements of Success; and evaluating and monitoring to assist universities with keeping programs on track and achieving our goals.

We believe that by partnering with Georgia in the state's RT3 application, the UTeach Institute will help the state increase the production of more highly qualified and effective STEM teachers, ensuring that very student in Georgia has access to a quality STEM education.

Sincerely,

Mary Ann Rankin, Dean
College of Natural Sciences
The University of Texas at Austin

Tracy LaQuey Parker, Director
UTeach Institute
The University of Texas at Austin

Appendix A33: GPS Implementation Schedule

Phase in Plan for GPS

Year	Implement Year I ELA	Implement Year II ELA	Implement Year I Math	Implement Year II Math	Implement Year I Science	Implement Year II Science	Implement Year I Soc. Studies	Implement Year II Soc. Studies
K	04-05	05-06	05-06	06-07	06-07	07-08	07-08	08-09
1	04-05	05-06	05-06	06-07	06-07	07-08	07-08	08-09
2	04-05	05-06	05-06	06-07	06-07	07-08	07-08	08-09
3	04-05	05-06	06-07	07-08	05-06	06-07	07-08	08-09
4	04-05	05-06	06-07	07-08	05-06	06-07	07-08	08-09
5	04-05	05-06	06-07	07-08	05-06	06-07	07-08	08-09
6	04-05	05-06	04-05	05-06	04-05	05-06	06-07	07-08
7	04-05	05-06	05-06	06-07	04-05	05-06	06-07	07-08
8	04-05	05-06	06-07	07-08	06-07	07-08	06-07	07-08

Year	Implement Year I ELA	Implement Year II ELA	Implement Year I Math	Implement Year II Math	Implement Year I Science	Implement Year II Science	Implement Year I Soc. Studies	Implement Year II Soc. Studies
9	04-05	05-06	07-08	08-09*	04-05	05-06	06-07	07-08
10	04-05	05-06	07-08	09-10*	04-05	05-06	06-07	07-08
11	04-05	05-06	07-08	10-11*	04-05	05-06	06-07	07-08
12	04-05	05-06	07-08	11-12*	04-05	05-06	06-07	07-08

Implementation Year I indicates the year systems will receive training on the new curriculum.

Implementation Year II indicates the year systems will implement and be assessed on the new curriculum.

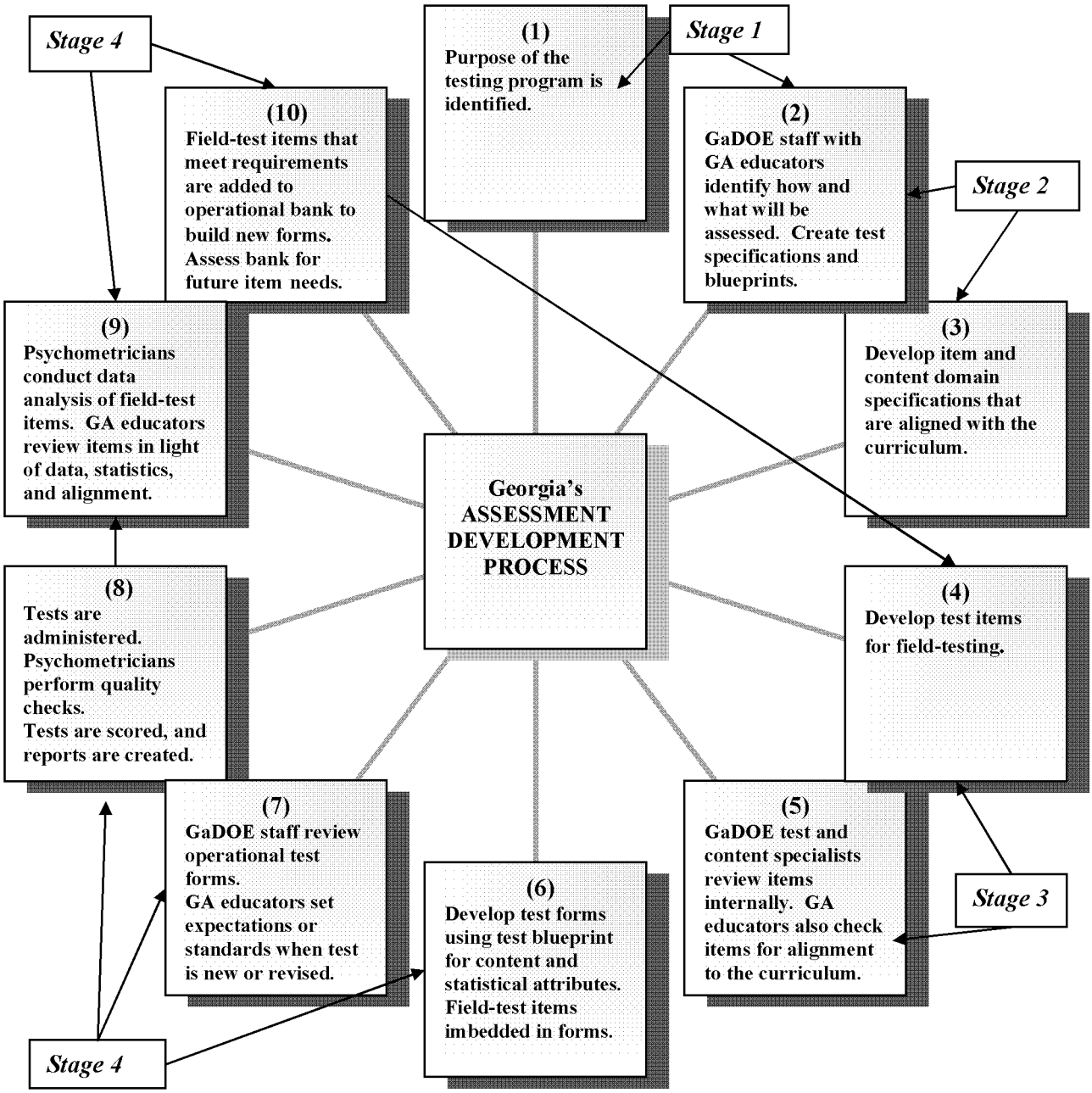
Changes as of November 10, 2004 highlighted in blue.

Changes as of August 23, 2004 highlighted in yellow.

Changes are for clarification of a student's progression through high school. The math curriculum is implemented as 08-09 ninth graders move through high school.

*All high school GPS math courses are available for ninth grade students in the 08-09 school year.

Appendix A34: Georgia's Assessment Development Process



Appendix A35: Establishing Standards for the Georgia High School Graduation Tests

Establishing Standards for the Georgia High School Graduation Tests

One of the purposes of assessment is to provide useful information to various stakeholders, including parents, students, teachers, administrators and legislators for the purpose of educational decision-making. To help achieve this purpose, assessments require a process for establishing performance standards so that decision makers can make meaningful statements about the level of proficiency of individual students and groups of students.

There are two primary standard setting approaches that are commonly used and supported by research. One is called the *Angoff* method; the other is termed *Bookmark*. Georgia has used both of these approaches with state assessments. These methods are also used in other states for educational assessments as well as for various licensure and certification exams.

The primary steps common to both procedures are:

- Assemble a representative panel of experienced Georgia educators. The panel is primarily composed of classroom teachers but may include administrators and content specialists. Educators who work with special populations (i.e. special education and English language learners) are also represented. All panelists selected have specific expertise in the curriculum and an understanding of the student population who will take the test.
- The panel carefully reviews and approves "Performance Level Descriptions" that detail what a student must know and be able to do in order to demonstrate that he or she "meets" and "exceeds" curricular expectations.
- Panelists take the full test just as a student would.
- Each panelist makes an individual judgment concerning what items a student who "meets the standard" should answer correctly and those that a student who "exceeds the standard" should answer correctly.
- Panelists compare and discuss individual ratings.
- Sometimes, additional data, such as the percent of students who answered each question correctly, can be introduced at this point, depending on the procedure being used. Then panelists are asked to submit a second rating.
- The round two ratings are revealed and discussed.
- Before a third and final round of judgments are recorded, panelists are given "impact data." This means they will know what percent of students would pass or fail based on their ratings.

A full report of the standard setting event is produced and the recommendations of the panel are submitted to the Office of Student Achievement, the Superintendent, and the State Board of Education for review and approval.

Another important part of the process involves working closely with the Technical Advisory Committee (TAC), an independent group of national experts. All procedures and results are carefully reviewed by TAC to insure they adhere to the highest standards of technical quality.

Appendix A36: CCSSI Press Release

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 Omear, 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.

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.

Please note that this printable version may not contain the full text of any PDF files or other attachments.

Printed from the NGA web site.

AMERICAN DIPLOMA PROJECT (ADP) RECOMMENDATIONS OF GEORGIA'S ADP ACTION TEAM

INTRODUCTION

Georgia has joined with 21 other states in the American Diploma Project (ADP) Network, an effort led by Achieve, Inc. to raise expectations and achievement in American high schools so that virtually all students graduate with the knowledge and skills they need to be successful in college and the workplace and that many more students succeed in college once enrolled. All states in the ADP Network have committed to a four-point agenda:

1. **Standards:** Align academic standards in high school with the expectations for college and workplace success so that all students who meet the standards are prepared for their next steps in life.
2. **Course Requirements:** Upgrade high school course requirements so that all students are required to complete a college and work ready curriculum in order to earn a high school diploma.
3. **Assessment:** Redesign selected high school tests in English and mathematics so that they also serve as readiness tests for college and work.
4. **Accountability:** Hold high schools and colleges accountable for the success of their students.

The Problem: American high schools, including those in Georgia, are faced with a new challenge: At a time when experts predict that about two-thirds of the new jobs will require some education beyond high school (college, work, apprenticeships, or military), nearly a quarter of students drop out of high school without graduating. Furthermore, large numbers of those who do earn a diploma often find that they are not adequately prepared for the next step. Nearly one-third of high school graduates who go to college are immediately enrolled in remedial courses due to gaps in their preparation. Employers also report that a significant number of those they hire right out of high school have serious deficiencies in mathematics, reading and writing.

National averages show that for every 100 ninth grade students, only 68 graduate from high school on time, only 40 enroll immediately in college, only 27 are still enrolled in their sophomore year, and only 18 graduate from college on time. As Thomas Friedman (*The World is Flat*), Bill Gates, and many others have observed, nations such as China and India have recognized that educational excellence is the key to future economic prosperity and have organized accordingly.

Without significant improvements to American high schools, including the high schools in Georgia, the future well-being of our national and state economies, as well as that of our local communities, are at risk. Employers know it; they estimate that about half of high school graduates do not have the skills to advance beyond low-paying, entry-level jobs. College professors know it; they estimate that more than 4 in 10 entering freshmen are not prepared for college courses. The American public knows it; strong majorities favor sweeping improvements to high schools. And students know it; less than one-quarter say they were significantly challenged in high school, and more than two-thirds say they wished they had worked harder.

Georgia's Team: Under the umbrella of the Alliance of Education Agency Heads Implementation Team, an ADP Action Team has formed to shape and to coordinate Georgia's ADP agenda. The ADP

Action Team includes: Martha Reichrath, Governor's Office; Stuart Bennett, Sue Snow, English Program Manager, TBD, Chris Domaleski, and Claire Pierce, Georgia Department of Education (DOE); Freida Hill and Fred Kiehl, Department of Technical and Adult Education (DTAE); Amy Mast, DOE & USG; and Frank Butler, Ron Henry, Sara Connor, Judith Monsaas, and Jan Kettlewell, University System of Georgia (USG). Steve Dolinger, President, Georgia Partnership for Excellence in Education, joins Martha Reichrath, Stuart Bennett, and Jan Kettlewell as Georgia's Leadership Team.

With the assistance of Achieve, Org. since fall 2005, Georgia's team now offers for consideration the following integrated set of recommendations for Georgia through which to meet the four-point agenda of the ADP Network.

RECOMMENDATIONS

1. STANDARDS

The ADP Action Team used the Georgia Performance Standards (GPS) to identify proposed College and Work Readiness Standards in mathematics and in English. The GPS have been recently developed under the leadership of State Superintendent Kathy Cox and the DOE, and Superintendent Cox involved significantly the USG, DTAE, and the business community in their development. The proposed College and Work Readiness Standards have been benchmarked against national standards and found to meet or exceed all college and work readiness standards set by the American Diploma Project. They have been reviewed by USG and DTAE faculties through the appropriate academic advisory committees, and they have been reviewed by the business community through the Georgia Partnership for Excellence in Education.

MATHEMATICS

To the ADP Action Team, all students who meet the high school graduation requirements (as recommended herein) will be college and work ready. The ADP Action Team recommends that all students must successfully complete four years of mathematics in high school to include at least meeting the standards for mathematics III (as defined in the GPS) or a higher level mathematics course.

ENGLISH

To the ADP Action Team, all students who meet the high school graduation requirements (as recommended herein) will be college and work ready. The ADP Action Team recommends that all students must successfully complete four years of English in high school to include at least meeting the standards for 11th grade English (as defined in the GPS) or a higher level English course.

2. COURSE REQUIREMENTS

The ADP Action Team recommends to the State Board of Education the following 17 Carnegie unit core curriculum, based upon the new GPS, for all high school students in Georgia's public schools:

- Four years of English, including English I, II, III, and IV.
- Four years of mathematics, including Mathematics I, II, and III or higher.
- Three years of science, including biology, chemistry, and physics, or biology, physical science, and one other science course selected from a limited number of electives.
- Three years of social studies, including US History, World History, and Economics and Citizenship (required by law).
- Two years of foreign language.
- One year of Health and Physical Education (required by law).

The ADP Action Team further recommends to the State Board of Education that beyond the core, all of Georgia's public high school students have elected options through which to pursue career and/or academic interests. The ADP Action Team offers as a possible name for the diploma, The State of Georgia College and Work Readiness Diploma, following the anticipated change to the High School Graduation Rule by the State Board of Education. Finally, the ADP Action Team recommends that USG and DTAE align their lists of high school course prerequisites for college admission with the new High School Graduation Rule anticipated for adoption by the State Board of Education in early 2007, for implementation with the 9th grade high school class in 2008-09.

3. Assessment

The ADP Action Team has formed an Assessment Sub-Committee to develop recommendations for the redesign of an existing high school test to serve two purposes:

1. To measure student learning in relation to a sample of the GPS as a requirement for high school graduation.
2. To measure student readiness for college and work to substitute for the college placement test for remediation within DTAE and USG.

The Assessment Sub-Committee includes: Chris Domaleski, DOE, and Judy Monsaas, USG, Co-Chairs; Melissa Fincher and Kay Ellen Rutledge, DOE; Barbara Wilburn and Tony Turner, DTAE; Cathie Hudson and Leslie Caldwell, USG. The Assessment Sub-Committee established the following process for inviting participation of high school, DTAE, and USG faculties in the redesign of this test:

Actions	Timeline	
	English	Mathematics
Convene a broad-based committee to examine key issues • Define purpose of assessment • Identify performance levels to be established • Explore desired characteristics of assessment to meet purpose	Early Fall 2006	Early Fall 2009
Convene committee to draft the Performance Level Descriptors	Late Fall 2006	Late Fall 2009
Participate in standard setting for college and work readiness	Spring 2008	Spring 2011

Actions	Timeline	
	English	Mathematics
Final review and approval of recommended standards	Spring - Summer 2008	Spring-Summer 2011
Implement assessment for college readiness and placement	Spring 2008 for admission in Fall 2010	Spring 2011 for admission in Fall 2013
Validation study correlating test scores and grades in entry level English and mathematics college courses in the discipline conducted to validate and, possibly, adjust "college readiness" score.	2009-2010 academic year	2012-2013 academic year

The Georgia High School Graduation Test will continue to serve as a requirement for high school graduation, and students who pass this test would be exempt from taking the college placement tests for remediation in DTAE and USG. The English and mathematics sections would be used to determine whether students are exempt from taking the college placement tests for remediation.

The current proposed timeline for implementation of the sections of the college and work readiness as follows:

- English, spring of 2008
- Mathematics, spring of 2011

4. Accountability

The ADP Action Team recommends that Georgia's single accountability system (legislatively approved) include on its Annual Report Card the following measures for monitoring the progress of public high schools, DTAE, and USG institutions toward the purposes of the ADP Network:

Appendix A37: Georgia's ADP Action Plan

	#	Goals	Proposed Measures
High School	1	**Increase High School Graduation Rates with Virtually all Students both College and Work Ready**	4-year cohort graduation rate of students from 9th grade to high school graduation.
			Number/percent of public high school students who pass (at meets level) the State of Georgia College and Work Readiness Diploma Test (under development) on the first attempt disaggregated by demographic group.
			Number/percent of public high school students who pass (at exceeds level) the State of Georgia College and Work Readiness Diploma Test (under development) on the first attempt disaggregated by demographic group.
High School and Post-Secondary	2	**Increase College Transition**	Number/percent of students that are in dual enrollment courses.
			Number/percent of students that are in Advanced Placement courses.
			Number/percent of Georgia's public high school graduates enrolling in the University System of Georgia (USG) and the Department of Technical and Adult Education (DTAE) disaggregated by demographic group.
			Number/percent of Georgia's public high school graduates enrolling in private colleges and universities within the state disaggregated by demographic group.
			Number/percent of Georgia's public high school graduates meeting eligibility criteria for HOPE scholarships disaggregated by demographic group.
			Number/percent of USG and DTAE students enrolled in remedial courses disaggregated by demographic group.
			One-year retention rates for first-time full-time DTAE students enrolled in technical certificate of credit programs disaggregated by demographic group and type of high school diploma.
			One-year retention rates for first-time full-time DTAE students enrolled in diploma programs disaggregated by demographic group and type of high school diploma.
			One-year retention rates for first-time full-time USG and DTAE students enrolled in associate degree programs disaggregated by demographic group and type of high school diploma.
			One-year retention rates for first-time full-time USG students in two-year colleges enrolled in the first two years of baccalaureate degree programs disaggregated by demographic group and type of high school diploma.
			One-year retention rates for first-time full-time USG students enrolled in baccalaureate degree programs disaggregated by demographic group and type of high school diploma.
			Number/percent of Georgia's public high school graduates retaining HOPE scholarship after first year of college disaggregated by demographic group.
Post-Secondary	3	**Increase College Success**	Number/percent of students completing DTAE certificate of credit programs within one-year, within two-years of entering the programs disaggregated by demographic group.
			Number/percent of students completing DTAE diploma programs within two-years, within three-years of entering the programs disaggregated by demographic group.
			Number/percent of students completing associate's degree within DTAE and USG within two-years, within three-years of entering the programs disaggregated by demographic group.
			Number/percent of students completing their bachelor's degree within USG within four-years, within five-years, within six years of entering the programs disaggregated by demographic group.

Appendix 38: CCRPI Press Release

CONTACT: Sandy Boyd (202) 419-1542, sboyd@achieve.org

Education Policy Groups Partner to Launch Multi-State College & Career-Ready Policy Institute

Eight Leading States Selected to Develop Cutting Edge College- and Career-Ready Assessment and Accountability Policies

WASHINGTON, D.C. – September 10, 2008 – Today Achieve, the Data Quality Campaign, the EducationCounsel, Jobs for the Future and the National Governors Association Center for Best Practices announced an unprecedented partnership to provide guidance, advice and support to states through the "College & Career-Ready Policy Institute" ("Institute"). The Institute is supported by the Bill & Melinda Gates Foundation.

The Institute is designed to help states put K-12 assessment and accountability systems in place that will ensure that all students graduate from high school college- and career-ready. In addition, the Institute will also assist states in developing strategies for building the capacity of districts and schools so that all students successfully reach higher standards. The support to states by the partners will include multi-state gatherings where state teams will participate in cross-state leadership sessions, the first of which begins today in Washington D.C., as well as in-state, customized technical assistance.

The eight Institute states, all participants in Achieve's American Diploma Project Network, are **Arizona, Arkansas, Georgia, Louisiana, Minnesota, New Mexico, Ohio and Tennessee.** The Institute states were chosen through a competitive selection process based on the states' strong leadership and commitment to a college- and career readiness agenda as demonstrated by their success in raising academic standards and graduation requirements for all students. These states are now well positioned to tackle the difficult, but essential, task of ensuring that their assessment and accountability systems are likewise anchored in college- and career readiness and that state education policies cohesively support this critical goal.

Specifically, the Institute will assist states in:

- Developing goals for improving high school graduation, college- and career readiness and postsecondary attainment rates;
- Putting in place a comprehensive state assessment system that is aligned with college- and career-ready standards and that measures student progress over time;
- Establishing a coherent system of accountability that makes college- and career readiness a central priority and that "incentivizes" proper actions, promotes accurate judgments, and drives effective supports and interventions;

- Designing a statewide system of supports and interventions to assist low performing districts and schools and ensure continuous improvement for all schools and districts around the state; and

- Providing educational options and supports to boost the achievement of low-income students and other groups at high-risk of not achieving college-ready standards and college success.

In addition to assisting the eight states in developing and implementing a comprehensive college- and career-ready policy, it is hoped that the lessons learned from these Institute states can assist other states also committed to the college- and career-ready agenda, therefore boosting the academic prospects for even more U.S. students.

****

More Information on the College & Career-Ready Institute Partners:

Achieve
Created by the nation's governors and business leaders, Achieve, is a bipartisan, non-profit organization that helps states raise academic standards, improve assessments and strengthen accountability to prepare all young people for postsecondary success. At the 2005 National Education Summit, Achieve launched the American Diploma Project (ADP) Network, a coalition that has grown to 33 states, educating nearly 80% of public school students in the United States. The ADP Network is committed to aligning high school expectations with the demands of college, career and life. For more information about Achieve, go to: www.achieve.org.

Data Quality Campaign
The Data Quality Campaign is a national, collaborative effort to encourage and support state policymakers to improve the collection, availability and use of high-quality education data and to implement state longitudinal data systems to improve student achievement. The campaign aims to provide tools and resources that will assist state development of quality longitudinal data systems, while also providing a national forum for reducing duplication of effort and promoting greater coordination and consensus among the organizations focusing on improving data quality, access and use. The DQC has 14 Managing Partners and numerous Endorsing Partners. For the list of partners and more information, Please visit www.DataQualityCampaign.org.

EducationCounsel
EducationCounsel is an innovative law, policy, strategy, and advocacy organization committed to strengthening education systems, closing achievement gaps, and expanding access to educational opportunities. The firm collaborates with education leaders from across the country, including state and local leaders, higher education officials, associations, and pioneering private and public entities to improve educational outcomes for all students. EducationCounsel's multidisciplinary team seeks creative, research-based solutions to the complex challenges facing the education community. The firm's collaborative approach helps clients effectively address every educational stage, from birth and pre-school through elementary, secondary and higher education.

Jobs for the Future
Jobs for the Future creates strategies for educational and economic opportunity. We develop promising education and labor-market models, expand successful models in communities across the country, and shape the policy environment that enables American families and companies to compete in a global economy. To learn more, visit www.jff.org.

National Governors Association Center for Best Practices
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.

The Alliance of Education Agency Heads

1554 Twin Towers East, 205 Jesse Hill Jr. Drive, SE, Atlanta, Georgia 30334 • 404-657-4122

COLLEGE & CAREER-READINESS IN GEORGIA: SUMMARY

VISION:
Students across Georgia will have access to a world-class education system that prepares them for success in college and 21st century careers. Georgia will focus its college and career-ready priorities on rigorous standards, aligned assessments, a robust data system, statewide accountability, and a comprehensive system of supports and interventions.

BACKGROUND:
In 2004, Georgia made a bold decision to revise its curriculum to meet the needs of all students. The Georgia Performance Standards (GPS) is now one of the top-rated curricula in the nation. Georgia joined the American Diploma Project (ADP) Network in 2006, the national initiative to raise high school standards, strengthen assessments and curriculum, and align expectations with the demands of college and careers. The Governor convened the leaders of Georgia's seven education agencies in 2006, forming the Alliance of Education Agency Heads. In September 2007, the State Board of Education adopted rigorous new graduation requirements with the full involvement and support of the Alliance, higher education faculty, and business leaders. All students in Georgia now have access to one common set of course requirements that will help ensure they earn a diploma that enables them to enter college and the world of work ready for the knowledge-based, high-tech 21st century economy. Through the Alliance of Education Agency Heads, five priority education goals have been established and agencies are focused on the ultimate goal of students graduating from high school ready for success in college and careers.

COLLEGE & CAREER-READY POLICY INSTITUTE (CCRPI):
Building on the success of the American Diploma Project, Georgia was one of eight states selected in September 2008 to participate in the College and Career-Ready Policy Institute (CCRPI). The national collaborative effort is aimed at increasing the number of students that graduate high school ready for college and careers. CCRPI is supported by the Bill & Melinda Gates Foundation and directed by a partnership of well-respected education policy groups including Achieve, Inc., the Data Quality Campaign, the EducationCounsel, Jobs for the Future, and the National Governors Association Center for Best Practices.

GEORGIA'S PRIORITIES for COLLEGE & CAREER-READINESS:

- **Goals and Measures:** Clear and rigorous goals and measures for improving high school graduation, college and career-readiness, and postsecondary attainment rates established to benchmark the state's progress.
- **Anchor Assessments:** Comprehensive assessment system aligned with college and career-ready standards, and used for postsecondary course placement in English Language Arts and Mathematics.
- **P-20 Longitudinal Data System:** Longitudinal Data System to track and measure student progress and success longitudinally from preschool through postsecondary and into the workforce, and utilized to inform instructional practice and student learning.
- **Accountability:** Statewide indicators for measuring and monitoring high school graduation, college and career-readiness, and postsecondary attainment rates aligned to college and career-readiness standards.
- **Supports and Interventions:** Statewide system of supports and interventions to assist low performing districts and schools and ensure continuous improvement for all schools and districts around the state.

Appendix A39: NAEP, CRCT, and Graduation Rates

Test Type	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	Change
Reading								
NAEP-4th grade	26	N/A	26	N/A	28	N/A	29	3.0
NAEP -8th grade	26	N/A	25	N/A	26	N/A	27	1.0
CRCT 1st grade	N/A	91.69	91.16	87.73	90.08	90.30	90.90	-0.8
CRCT 2nd grade	N/A	85.82	87.00	89.46	91.26	92.00	91.90	6.1
CRCT 3rd grade	N/A	90.39	91.89	82.78	84.98	92.52	88.00	-2.4
CRCT 4th grade	80	78.29	86.94	80.93	84.73	87.49	87.30	7.3
CRCT 5th grade	N/A	84.85	89.10	81.14	85.49	92.90	87.89	3.0
CRCT 6th grade	82	80.22	84.07	86.52	89.29	91.39	89.90	7.9
CRCT 7th grade	N/A	85.69	86.93	80.32	84.96	88.06	89.21	3.5
CRCT 8th grade	81	84.71	82.70	89.61	88.65	93.55	96.00	15.0
Math								
NAEP-4th grade	26	N/A	30	N/A	32	N/A	34	8.0
NAEP -8th grade	21	N/A	23	N/A	25	N/A	27	6.0
CRCT 1st grade	N/A	89.6	88.56	90.18	82.33	86.42	87	-2.6
CRCT 2nd grade	N/A	87.03	88.11	87.21	81.35	85.47	87.3	0.3
CRCT 3rd grade	N/A	89.32	89.42	91.39	90.45	70.92	77.9	-11.4
CRCT 4th grade	74	75.78	75.2	79.48	78.44	70.06	75.0	1.0
CRCT 5th grade	N/A	83.05	86.56	88.62	88.1	84.23	87.0	3.9
CRCT 6th grade	70	73.12	74.3	61.88	64.57	69.28	74.9	4.9
CRCT 7th grade	N/A	77.29	77.66	80.94	74.04	79.89	83.7	6.4
CRCT 8th grade	67	72.76	68.82	77.48	81.45	78.28	80.0	13.0
Science								
NAEP-4th grade	N/A	N/A	24	N/A	N/A	N/A	26	2.0
NAEP -8th grade	N/A	N/A	26	N/A	N/A	N/A	28	2.0
CRCT 3rd grade	N/A	82.56	84.26	84.74	70.05	74.56	79.7	-2.9
CRCT 4th grade	N/A	85.97	87.96	88.24	71.93	73.82	77.7	-8.3
CRCT 5th grade	N/A	85.77	88.54	89.02	66.73	71.31	76.0	-9.8
CRCT 6th grade	N/A	81.95	82.97	61.38	59.55	66.06	68.5	-13.4
CRCT 7th grade	N/A	77.	84.23	63.17	70.06	75.2	75.7	-1.3
CRCT 8th grade	N/A	75.91	74.35	76.49	74.16	59.82	64.4	-11.5
Language Arts								
CRCT 1st grade	N/A	85.59	84.71	79.44	82.32	84.46	84	-1.6
CRCT 2nd grade	N/A	86.66	88.97	83.65	83.76	84.13	86.7	0.0
CRCT 3rd grade	N/A	86.95	86.76	82.12	85.62	87.11	86.5	-0.4
CRCT 4th grade	78	83.95	83.9	78.78	84.24	86.21	86.9	8.9
CRCT 5th grade	N/A	84.75	88.36	84.77	87.64	89.96	91.3	6.6
CRCT 6th grade	68	72.22	76.37	84.28	86.3	87.36	90.5	22.5
CRCT 7th grade	N/A	82.9	83.93	83.16	89.19	89.72	89.5	6.6
CRCT 8th grade	75	80.45	79.84	86.72	88.41	89.53	91.8	16.8

Shaded = GPS taught and tested
NAEP = Percent at Basic or Above

Appendix A39: NAEP, CRCT, and Graduation Rates

Test Type	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	Change
Reading – NAEP 4th grade								
All students	26	N/A	26	N/A	28	N/A	29	3.0
Male	24	N/A	23	N/A	25	N/A	26	2.0
Female	30	N/A	30	N/A	31	N/A	33	3.0
White	38	N/A	37	N/A	40	N/A	40	2.0
Black	13	N/A	12	N/A	14	N/A	15	2.0
Hispanic	18	N/A	13	N/A	21	N/A	20	2.0
School lunch program eligible	15	N/A	13	N/A	15	N/A	18	3.0
Not eligible	40	N/A	41	N/A	41	N/A	44	4.0
Reading – NAEP 8th grade								
All students	28	N/A	25	N/A	26	N/A	27	-1.0
Male	22	N/A	20	N/A	20	N/A	22	0.0
Female	30	N/A	30	N/A	31	N/A	32	2.0
White	36	N/A	35	N/A	38	N/A	35	-1.0
Black	12	N/A	9	N/A	13	N/A	15	3.0
Hispanic	15	N/A	14	N/A	17	N/A	20	5.0
School lunch program eligible	12	N/A	11	N/A	14	N/A	14	2.0
Not eligible	38	N/A	36	N/A	37	N/A	40	2.0
Math – NAEP 4th grade								
All students	26	N/A	30	N/A	32	N/A	34	8.0
Male	29	N/A	30	N/A	53	N/A	35	6.0
Female	25	N/A	29	N/A	30	N/A	32	7.0
White	40	N/A	43	N/A	46	N/A	48	8.0
Black	10	N/A	13	N/A	13	N/A	15	5.0
Hispanic	14	N/A	22	N/A	20	N/A	26	12.0
School lunch program eligible	13	N/A	17	N/A	16	N/A	19	6.0
Not eligible	40	N/A	45	N/A	49	N/A	53	13.0
Math – NAEP 8th grade								
All students	21	N/A	23	N/A	25	N/A	27	6.0
Male	24	N/A	24	N/A	26	N/A	27	3.0
Female	19	N/A	23	N/A	23	N/A	27	8.0
White	32	N/A	34	N/A	37	N/A	39	7.0
Black	16	N/A	8	N/A	11	N/A	11	-5.0
Hispanic	12	N/A	12	N/A	16	N/A	18	6.0
School lunch program eligible	10	N/A	10	N/A	12	N/A	13	3.0
Not eligible	34	N/A	34	N/A	37	N/A	41	7.0

Shaded = GPS taught and tested
NAEP = Percent at Basic or Above

Appendix A39: NAEP, CRCT, and Graduation Rates

Test Type	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	Change
Reading – CRCT 4th grade								
All students	80	78.29	86.94	80.93	84.73	87.49	88	8.0
Male	76	74.34	83.93	78.54	82.91	84.59	85	9.0
Female	84	82.45	90.08	83.45	86.61	90.49	90	6.0
White	88	86.64	92.51	90.16	92.28	92.81	93	5.0
Black	73	69.51	81.19	70.38	76.62	81.45	81	8.0
Hispanic	65	65.34	77.94	71.25	75.78	82.72	84	19.0
Asian	87	87.29	93.12	90.48	93.15	94.57	94	7.0
Native American/Alaskan Indian	85	84.09	88.19	91.57	85.23	90.05	89	4.0
Multiracial	85	82.13	89.45	86.05	88.76	90.06	91	6.0
Students with Disabilities	51	51.78	68.3	61.53	65.	64.47	63	12.0
Students without Disabilities	84	82.49	89.84	84.	87.76	90.86	90	6.0
Limited English Proficient	47	47.68	64.52	56.31	61.49	70.89	78	31.0
Economically Disadvantaged	71	68.94	80.91	71.67	77.22	81.74	81	10.0
Not Economically	89	88.09	93.21	90.8	93.29	94.37	95	6.0
Migrant	58	55.11	70.56	59.28	67.33	72.26	77	19.0
Reading – CRCT 8th grade								
All students	81	84.71	82.7	89.61	88.65	93.55	96	15.0
Male	77	80.76	78.49	87.23	86.33	91.75	94	17.0
Female	85	88.76	87.08	92.05	91.05	95.41	97	12.0
White	88	90.59	89.49	94.85	94.01	96.65	98	10.0
Black	73	78.58	75.76	84.74	83.6	90.88	94	21.0
Hispanic	65	69.5	68.23	79.05	80.35	87.47	92	27.0
Asian	88	90.85	90.11	93.13	93.71	95.85	97	9.0
Native American/Alaskan Indian	82	84.18	87.18	92.82	91.5	99.05	96	14.0
Multiracial	87	89.41	88.62	93.22	92.4	96.38	97	10.0
Students with Disabilities	43	49.79	49.91	65.37	61.36	71.78	78	35.0
Students without Disabilities	86	89.36	87.04	92.74	92.15	96.28	97	11.0
Limited English Proficient	46	49.	45.25	57.74	58.27	69.91	79	33.0
Economically Disadvantaged	71	76.21	74.31	83.72	82.51	89.88	93	22.0
Not Economically	89	91.74	90.17	95.02	95.06	97.46	98	9.0
Migrant	51	54.1	53.3	66.86	67.11	67.67	81	30.0

Shaded = GPS taught and tested
NAEP = Percent at Basic or Above

Appendix A39: NAEP, CRCT, and Graduation Rates

Test Type	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	Change
Math – CRCT 4th grade								
All students	74	75.78	75.2	79.48	78.44	70.06	75	1.0
Male	72	73.66	73.77	77.76	77.48	68.92	74	2.0
Female	76	78.01	76.7	81.28	79.45	71.24	76	0.0
White	83	84.71	84.38	87.36	86.47	80.25	85	2.0
Black	62	65.12	63.88	69.61	68.15	56.57	61	-1.0
Hispanic	64	66.7	66.9	73.14	73.47	67.22	70	6.0
Asian	89	90.83	91.21	93.46	93.81	89.48	92	3.0
Native American/Alaskan	82	82.39	77.78	87.35	85.91	76.3	76	-6.0
Multiracial	78	78.54	78.35	83.1	82.05	72.04	77	-1.0
Students with Disabilities	42	45.96	46.59	52.39	49.85	41.78	44	2.0
Students without Disabilities	78	80.5	79.65	83.75	82.83	74.19	78	0.0
Limited English Proficient	50	53.02	53.41	61.34	60.52	53.84	63	13.0
Economically Disadvantaged	64	65.98	64.83	70.66	69.57	59.42	64	0.0
Not Economically Disadvantaged	85	86.06	85.97	88.88	88.58	82.81	87	2.0
Migrant	57	58.53	58.4	64.27	66.48	56.79	65	8.0
Math – CRCT 8th grade								
All students	67	72.76	68.82	77.48	81.45	78.28	80	13.0
Male	64	69.95	66.38	75.65	79.22	75.31	78	14.0
Female	69	75.63	71.36	79.36	83.75	81.36	83	14.0
White	77	81.61	79.29	86.73	88.67	85.53	87	10.0
Black	52	61.15	55.85	66.56	73.16	69.88	71	19.0
Hispanic	54	61.91	57.18	67.9	75.57	71.52	75	21.0
Asian	89	91.93	89.54	93.19	95.59	93.65	95	6.0
Native American/Alaskan	70	75.	73.08	83.08	84.31	78.57	83	13.0
Multiracial	73	78.22	75.06	83.9	85.31	82.76	83	10.0
Students with Disabilities	23	29.38	27.99	39.59	45.55	41.31	44	21.0
Students without Disabilities	72	78.52	74.22	82.35	86.03	82.92	84	12.0
Limited English Proficient	44	48.47	41.84	50.66	58.42	57.78	62	18.0
Economically Disadvantaged	53	60.54	56.14	67.07	72.83	68.91	71	18.0
Not Economically	77	82.86	80.11	87.05	90.44	88.28	89	12.0
Migrant	48	48.6	48.2	56.32	62.46	64.02	65	17.0

Shaded = GPS taught and tested
NAEP = Percent at Basic or Above

Appendix A39: NAEP, CRCT, and Graduation Rates

Test Type	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	Change
Language Arts – CRCT 4th grade								
All students	78	83.95	83.9	78.78	84.24	86.21	87	9.0
Male	73	79.81	79.81	74.68	80.71	82.82	83	10.0
Female	83	88.31	88.17	83.1	87.91	89.72	91	8.0
White	86	90.32	89.89	85.64	89.82	91.02	91	5.0
Black	71	77.45	77.69	71.3	78.1	80.55	81	10.0
Hispanic	64	72.74	73.58	68.66	77.2	81.8	84	20.0
Asian	87	91.78	93.11	91.72	94.06	94.65	95	8.0
Native American/Alaskan	80	85.23	86.81	86.14	87.25	91.94	87	7.0
Multiracial	82	87.12	86.49	81.75	86.84	89.04	89	7.0
Students with Disabilities	47	57.48	57.87	50.46	57.2	60.48	61	14.0
Students without Disabilities	83	88.14	87.95	83.27	88.4	89.98	91	8.0
Limited English Proficient	46	57.9	59.25	52.73	61.88	69.82	77	31.0
Economically Disadvantaged	69	76.64	76.63	69.73	77.16	80.25	81	12.0
Not Economically	87	91.62	91.45	88.43	92.32	93.33	94	7.0
Migrant	56	62.75	65.55	54.07	66.67	69.34	74	18.0
Language Arts – CRCT 8th grade								
All students	75	80.45	79.84	86.72	88.41	89.53	92	17.0
Male	69	74.59	73.8	82.6	85.08	85.96	89	20.0
Female	82	86.45	86.13	90.93	91.84	93.22	95	13.0
White	83	86.77	86.5	92.22	93.14	93.36	94	11.0
Black	67	73.94	73.28	81.68	84.32	85.92	89	22.0
Hispanic	55	62.83	63.43	73.84	78.51	82.6	88	33.0
Asian	86	89.15	89.48	93.2	94.42	95.54	96	10.0
Native American/Alaskan	80	79.1	82.05	87.69	91.5	88.1	94	14.0
Multiracial	81	85.6	85.54	91.92	92.01	92.73	94	13.0
Students with Disabilities	31	38.61	40.98	54.99	57.42	59.24	65	34.0
Students without Disabilities	81	86.02	84.99	90.8	92.37	93.33	95	14.0
Limited English Proficient	37	41.86	39.99	51.82	55.23	64.12	72	35.0
Economically Disadvantaged	64	70.69	70.95	79.88	82.46	84.36	88	24.0
Not Economically	83	88.53	87.75	93.	94.6	95.03	96	13.0
Migrant	43	47.38	50.53	58.02	61.54	62.07	72	29.0

Shaded = GPS taught and tested
NAEP = Percent at Basic or Above

Appendix A39: NAEP, CRCT, and Graduation Rates

Test Type	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	Change
High School Graduation Rates								
All students	63.3	65.4	69.4	70.8	72.03	75.4	78.9	15.6
Male	59	61.6	65.7	67.	72.3	72.	75.5	16.5
Female	67.6	69.4	73.1	74.5	68.7	78.8	82.3	14.7
White	70.8	71.8	75	76.4	75.8	80.2	82.7	11.9
Black	52.6	56.8	61.9	63.6	65.5	69.2	74.1	21.5
Hispanic	48.5	49.6	55.3	55.7	60.3	65.6	71	22.5
Students with Disabilities	28.8	28.6	29.4	32.4	32.9	37.7	41.4	12.6
Students without Disabilities	66.8	69.5	73.8	75.1	76.7	79.6	83	16.2
Limited English Proficient	37.7	40.9	37.7	39.5	46.4	50.2	55	17.3
Economically Disadvantaged	51.7	56.	60.1	61.5	63.1	67.	72.9	21.2
Not Economically	67.5	69.3	73.4	75.3	77.1	80.3	82.8	15.3

Shaded = GPS taught and tested
NAEP = Percent at Basic or Above

Appendix A40: Trend Analysis

Trend Analysis 2003 to 2009*

1. Overall Trends by Content Area (NAEP & CRCT)

- **1.1 Reading**
- **1.2 Mathematics**
- **1.3 Science**
- **1.4 Language Arts**

2. Trends by Sub-Group and Content Area (NAEP & CRCT)

- **2.1 Grade 4 Reading**
- **2.2 Grade 8 Reading**
- **2.3 Grade 4 Mathematics**
- **2.4 Grade 8 Mathematics**
- **2.5 Grade 4 Language Arts**
- **2.6 Grade 8 Language Arts**

3. High School Graduation Rate Trends

***The National Assessment of Educational Progress (NAEP) data included in this trend analysis are based on the percent of students scoring at a performance level of *Proficient* and *Advanced*. The Georgia Criterion-Referenced Competency Test (CRCT) data are based on the percent meeting and exceeding the standard. Comparisons of the percent meeting and exceeding the standard on the CRCT are ONLY appropriate when the same assessment program was in place. For example, comparisons are appropriate between years prior to the implementation and assessment of the Georgia Performance Standards (GPS), or when the Quality Core Curriculum (QCC) was in use, and between years since the implementation and assessment of the new, more rigorous, GPS, NOT across the two assessment and curriculum programs. The first year of implementation and assessment of the GPS varies by subject area (Reading/Language Arts: 2005-2006) and sometimes by grade within subject area (Mathematics & Science). Specific years of the implementation and assessment of the GPS are included in the bulleted statements within this document.**

Appendix A40: Trend Analysis

1.Overall Trends by Content Area (NAEP & CRCT)

1.1 Reading

- NAEP: According to the NAEP, Grade 4 students experienced a 3 percentage point gain between 2003 and 2009 (26% and 29%, respectively) in the percent of students scoring *Proficient* and above.
- CRCT: Based on the CRCT, from 2003 to 2005, Georgia's students saw gains in reading in ALL grade levels. These were the final years of the QCC-based assessment program.
- CRCT: Beginning in the 2005-2006 academic year, the more rigorous Georgia Performance Standards were implemented and then assessed in Reading; ALL grade levels have seen gains in the percent of students meeting or exceeding the standards since the baseline 2006 administration.
- CRCT: As of 2009, the percent of students meeting or exceeding the standards in Reading ranged from 87.3% (Grade 4) to 96% (Grade 8) on the CRCT.

1.2 Mathematics

- NAEP: According to the NAEP, Georgia's grade 4 students gained 8 percentage points in mathematics from 2003 to 2009 (26% and 34%, respectively) in the percent of students scoring *Proficient* and above.

- NAEP: In grade 8, the NAEP shows that students gained 6 percentage points from 2003 to 2009 (21% and 27%, respectively) in the percent of students scoring *Proficient* and above.

- CRCT: In Mathematics, Georgia implemented the more rigorous GPS using a staggered approach. As such, grade 6 began implementation and assessment of the GPS in the 2005-2006 academic year, grades K, 1, 2, and 7 began in the 2006-2007 academic year, and grades 3, 4, 5, and 8 began in the 2007-2008 academic year.

- CRCT: In all grades, regardless of when the curriculum and resulting assessment was transitioned, Georgia's students experienced gains in the percent meeting and exceeding standards in mathematics in the years preceding the transition based on the CRCT.

- CRCT: Grades 1 and 2 transitioned to the new curriculum during the 2006-2007 academic year. Since the baseline assessment year of 2007, grade 1 students experienced an increase of 5 percentage points in the percent of students meeting or exceeding the standards while grade 2 saw an increase of 6 percentage points.

- CRCT: Grades 3, 4, and 5 have experienced an increase of 7, 5, and 3 percentage points, respectively, in the percent of students meeting or exceeding the standards in the one year since the GPS were implemented and assessed.

Appendix A40: Trend Analysis

- CRCT: Grade 6 implemented the new standards during the 2005-2006 academic year. In the three years since the baseline year for the new assessment, grade 6 students have experienced a gain of 13 percentage points in the percent of students meeting or exceeding the standards in mathematics.

- CRCT: The baseline year for grade 7 in mathematics was 2007. In the two years since, grade 7 students have experienced an increase of 10 percentage points in the percent of students meeting or exceeding the standards in mathematics.

- CRCT: The baseline year for grade 8 in mathematics was 2008. In the one year since, grade 8 students have experienced an increase of 2 percentage points in the percent of students meeting or exceeding the standards in mathematics.

- CRCT: The percent of students meeting or exceeding the standards has increased for the students who began the new curriculum in grade 6 during the 2005-2006 academic year. During that year, 62% of students met or exceeded the standard. In 2006-2007, 74% of the grade 7 students met or exceeded the standard, and in 2007-2008, 78% of the grade 8 students met or exceeded the standards. Additionally, the cohort of students who began grade 6 in 2006-2007 followed a similar pattern wherein 65% met or exceeded the standards in grade 6, followed by 80% meeting or exceeding in grade 7, and 80% in grade 8.

1.3 Science

- NAEP: Science NAEP data trends cannot be determined at this time. Only one year (2005) of science data are available.

- CRCT: Prior to the implementation of the more rigorous GPS, when instruction was based on the QCC, Georgia's students were experiencing gains in grades 1 through 7. Unfortunately, grade 8 did not experience such gains. However, after implementation of the GPS, ALL grades have since experienced increases in the number of students meeting or exceeding the science standards.

- CRCT: Similar to mathematics, the new science GPS were not implemented in all grade levels during the same academic year.

- CRCT: In grades 3, 4, and 5, the new science GPS were implemented and assessed during the 2006-2007 academic year. All three grade levels have experienced gains in the two administrations since the baseline year of 10, 6, and 9 percentage points for grades 3, 4, and 5, respectively.

- CRCT: Students in grades 6, 7, and 8 experienced an increase in the percent of students meeting or exceeding the science standards of 7, 12, and 5 percentage points, respectively, since the new standards were implemented and assessed.

Appendix A40: Trend Analysis

1.4 Language Arts Trends

- CRCT: The percent of Georgia's students meeting or exceeding the standards for Language Arts ranges from 84% in grade 1 to 92% in grade 8.

- CRCT: The Language Arts standards for the new GPS were implemented and assessed in all grade levels beginning during the 2005-2006 academic year. In the three years since the baseline was established, Georgia's students have experienced increases ranging from 3 percentage points in grade 2 to 8 percentage points in grade 4.

2. Grade 4 and 8: Trends by sub-group and content area (NAEP & CRCT)

2.1 Reading, Grade 4

- NAEP: The NAEP provides evidence of an upward trend in Reading for Georgia's grade 4 students across all sub-groups from 2003 to the most recent and available administration in 2009. The upward trend in the percent of students scoring *Proficient* and above ranges from an increase of 2 percentage points for Black students, to an increase of 5 percentage points for student lunch program eligible.

- CRCT: Based on results from the grade 4 CRCT in reading, both the race-based achievement gap and the poverty-based achievement gap are narrowing. Both trends can be classified as *very positive* narrowing. Black and Hispanic students alike have made gains in the percent of students meeting the standards in grade 4 reading, 11 and 13 percentage points respectively, that are more than the increase made by White students (3). Similarly, economically disadvanted students have increased the percent of students meeting or exceeding the standard by 9 percentage points while the non-economically disadvantaged have increased by 4 percentage points. Comparisons were made from the year of the implementation and assessment of the new GPS during the 2005-2006 academic year to the 2008-2009 academic year.

- CRCT: Students classified as Migrant also experienced substantial gains in the percent of students meeting or exceeding the standards in grade 4 since the implementation of the GPS, gaining 18 percentage points from 2006 (59%) to 2009 (77%).

- CRCT: Students classified as having Limited English Proficiency also experienced substantial gains in the percent of students meeting or exceeding reading standards in grade 4, gaining 22 percentage points from 2006 (56%) to 2009 (78%).

2.2 Reading, Grade 8

- NAEP: The race-based achievement gap for eighth grade students in reading is narrowing for Hispanic students. The narrowing trend can be classified as *very positive* narrowing, in that, White and Hispanic students have made gains, but the gains of Hispanic students (5 percentage points) are larger than the gains made by White students (-1 percentage points).

- NAEP: Similarly, the poverty-based achievement gap for eighth grade students in reading is narrowing. The narrowing trend can also be classified as *positive* narrowing, in that the percent of students eligible for the national school lunch program experienced an increase (2 percentage points) while those students not eligible decrease (-2 percentage points).

- CRCT: Based on results from the grade 8 CRCT in reading, both the race-based achievement gap and the poverty-based achievement gap are narrowing. Both trends can be classified as *very positive* narrowing. Black and Hispanic students alike have made gains in the percent of students meeting the standards in grade 8 reading, 9 and 13 percentage points respectively, that are more than the increase made by White students (3). Similarly, economically disadvantaged students have increased the percent of students meeting or exceeding the standard by 9 percentage points while the non-economically disadvantaged have increased by 3 percentage points. Comparisons were made from the year of the implementation and assessment of the new GPS during the 2005-2006 academic year to the 2008-2009 academic year.

- CRCT: The achievement gap between students with disabilities and those without also narrowed in reading for grade 8 students since the implementation of the GPS. Between 2006 and 2009, the percent of students with disabilities meeting or exceeding the standards increased from 65% to 78%, a gain of 13 percentage points. Students without disabilities also experienced an increase from 93% meeting or exceeding to 97% meeting or exceeding, an increase of 4 percentage points.

- CRCT: Students classified as Migrant also experienced substantial gains in grade 8 reading since the implementation of the GPS, gaining 14 percentage points from 2006 (67%) to 2009 (81%).

- CRCT: Students classified as having Limited English Proficiency also experienced substantial gains in grade 8 reading, gaining 21 percentage points from 2006 (58%) to 2009 (79%).

2.3 Mathematics Grade 4

- NAEP: The NAEP provides evidence of an upward trend in Mathematics for Georgia's grade 4 students across ALL sub-groups from 2003 to 2009. The upward trend in percentage increases range from an increase of 5 percentage points for black students to an increase of 12 percentage points for Hispanic students.

- NAEP: The race-based achievement gap for fourth grade students in mathematics is narrowing for Hispanic students. The narrowing trend can be classified as *very positive* narrowing, in that, White and Hispanic students have made gains, but the gains of Hispanic students (12 percentage points) is larger than the gains made by White students (6 percentage points). Note: The difference between the Black and White student percentage increase is not likely to be statistically significant.

- CRCT: Georgia's curriculum transitioned from the skills-based QCC to the more rigorous GPS in fourth grade mathematics during the 2007-2008 academic year. Trends from 2003 to 2007 are therefore evaluated separately from the trends in the CRCT from 2008 to 2009.

- CRCT: Students classified as Migrant experienced substantial gains since the implementation of the GPS, gaining 8 percentage points from 2008 (57%) to 2009 (65%).

- CRCT: Students classified as having Limited English Proficiency also experienced substantial gains, gaining 9 percentage points from 2008 (54%) to 2009 (63%).

2.4 Mathematics Grade 8

- NAEP: The NAEP provides evidence of an upward trend in Mathematics for Georgia's grade 8 students across all sub-groups from 2003 to 2009. The upward trend in percentage increases range from an increase of 3 percentage points for students eligible for the national school lunch program and male students to an increase of 8 percentage points for female students.

- NAEP: The race-based achievement gap for eighth grade students in mathematics is narrowing for both Black and Hispanic students. The narrowing trends can be classified as *very positive* narrowing, in that, White, Black and Hispanic students have made gains, but the gains of Black students (14 percentage points) and Hispanic students (11 percentage points) are larger than the gains made by White students (4 percentage points).

- NAEP: Similarly, the poverty-based achievement gap for eighth grade students in mathematics is narrowing. The narrowing trend can also be classified as *very positive* narrowing. Students not eligible for the national school lunch program have gained 3 percentage points while students who are eligible for the national school lunch program have gained 13 percentage points.

- CRCT: Based on results from the grade 8 CRCT in mathematics, the race-based achievement gap for Hispanic students and the poverty-based achievement gap are narrowing. Both trends can be classified as *very positive* narrowing. Hispanic students have made gains in the percent of students meeting the standards in grade 8 mathematics (3) that are more than the increase made by White students (1). Similarly, economically disadvantaged students have increased the percent of students meeting or exceeding the standard by 2 percentage points while the non-economically disadvantaged have increased by 1 percentage point. Comparisons were made from the year of the implementation and assessment of the new GPS during the 2007-2008 academic year to the 2008-2009 academic year.

- CRCT: The achievement gap between students with disabilities and those without also narrowed since the implementation of the GPS in grade 8 mathematics. Between 2008 and 2009, the percent of students with disabilities meeting or exceeding the standards increased from 41 percent to 44%, a gain of 3 percentage points. Students without disabilities also experienced an increase from 83% meeting or exceeding to 84% meeting or exceeding, an increase of 1 percentage point.

- CRCT: Students classified as having Limited English Proficiency also experienced substantial gains, gaining 4 percentage points from 2008 (58%) to 2009 (62%).

2.5 Language Arts Grade 4

- CRCT: Based on results from the grade 4 CRCT in language arts, both the race-based achievement gap and the poverty-based achievement gap are narrowing. Both trends can be classified as *very positive* narrowing. Black and Hispanic students alike have made gains in the percent of students meeting the standards in grade 4 language arts, 10 and 15 percentage points respectively, that are more than the increase made by White students (5) since the GPS were implemented and assessed in 2006. Similarly, economically disadvantaged students have increased the percent of students meeting or exceeding the standard by 11 percentage points while the non-economically disadvantaged have increased by 6 percentage points. Comparisons were made from the year of the implementation and assessment of the new GPS during the 2005-2006 academic year to the 2008-2009 academic year.

- CRCT: The achievement gap between students with disabilities and those without also narrowed since the implementation of the GPS. Between 2006 and 2009, the percent of students with disabilities meeting or exceeding the standards increased from 50% percent to 61%, a gain of 11 percentage points. Students without disabilities also experienced an increase from 83% meeting or exceeding to 91% meeting or exceeding, an increase of 8 percentage points.

- CRCT: Students classified as Migrant also experienced substantial gains since the implementation of the GPS, gaining 20 percentage points from 2006 (54%) to 2009 (74%).

- CRCT: Students classified as having Limited English Proficiency also experienced substantial gains, gaining 24 percentage points from 2006 (53%) to 2009 (77%).

2.6 Language Arts Grade 8

- CRCT: Based on results from the grade 8 CRCT in language arts, both the race-based achievement gap and the poverty-based achievement gap are narrowing. Both trends can be classified as *very positive* narrowing. Black and Hispanic students alike have made gains in the percent of students meeting the standards in grade 8 language arts, 7 and 14 percentage points respectively, that are more than the increase made by White students (2) since the GPS were implemented and assessed in 2006. Similarly, economically disadvantaged students have increased the percent of students meeting or exceeding the standard by 8 percentage points while the non-economically disadvantaged have increased by 3 percentage points. Comparisons were made from the year of the implementation and assessment of the new GPS during the 2005-2006 academic year to the 2008-2009 academic year.

- CRCT: The achievement gap between students with disabilities and those without also narrowed since the implementation of the GPS. Between 2006 and 2009, the percent of students with disabilities meeting or exceeding the standards increased from 55% percent to 65%, a gain of 10 percentage points. Students without disabilities also experienced an increase from 91% meeting or exceeding to 95% meeting or exceeding, an increase of 4 percentage points.

- CRCT: Students classified as Migrant also experienced substantial gains since the implementation of the GPS, gaining 14 percentage points from 2006 (58%) to 2009 (72%).

- CRCT: Students classified as having Limited English Proficiency also experienced substantial gains, gaining 20 percentage points from 2006 (52%) to 2009 (72%).

3. High School Graduation Trends

- Georgia's high school graduation rate has increased across ALL sub-groups from 2003 to 2009.
- The graduation rate for both Black and Hispanic students is increasing at a faster rate than White students. Black students experienced an increase of 22 percentage points between 2003 and 2009; Hispanic students experienced an increase of 23 percentage points; and White students experienced an increase of 12 percentage points. Students with disabilities experienced an increase of 13 percentage points from 2003 to 2009.
- The percent of students with limited English proficiency graduating increased from 38% in 2003 to 55% in 2009, an overall change of 17 percentage points.
- Economically disadvantaged students experienced a larger increase in the percent of students graduating between 2003 and 2009 (21 percentage points) than non-economically disadvantaged students (15 percentage points).

Appendix B1: Common Core Standards MOA

The Council of Chief State School Officers and
The National Governors Association Center for Best Practices

Common Core Standards
Memorandum of Agreement

Purpose. This document commits states to a state-led process that will draw on evidence and lead to development and adoption of a common core of state standards (common core) in English language arts and mathematics for grades K-12. These standards will be aligned with college and work expectations, include rigorous content and skills, and be internationally benchmarked. The intent is that these standards will be aligned to state assessment and classroom practice. The second phase of this initiative will be the development of common assessments aligned to the core standards developed through this process.

Background. Our state education leaders are committed to ensuring all students graduate from high school ready for college, work, and success in the global economy and society. State standards provide a key foundation to drive this reform. Today, however, state standards differ significantly in terms of the incremental content and skills expected of students.

Over the last several years, many individual states have made great strides in developing high-quality standards and assessments. These efforts provide a strong foundation for further action. For example, a majority of states (35) have joined the American Diploma Project (ADP) and have worked individually to align their state standards with college and work expectations. Of the 15 states that have completed this work, studies show significant similarities in core standards across the states. States also have made progress through initiatives to upgrade standards and assessments, for example, the New England Common Assessment Program.

Benefits to States. The time is right for a state-led, nation-wide effort to establish a common core of standards that raises the bar for all students. This initiative presents a significant opportunity to accelerate and drive education reform toward the goal of ensuring that all children graduate from high school ready for college, work, and competing in the global economy and society. With the adoption of this common core, participating states will be able to:

- Articulate to parents, teachers, and the general public expectations for students;
- Align textbooks, digital media, and curricula to the internationally benchmarked standards;
- Ensure professional development to educators is based on identified need and best practices;
- Develop and implement an assessment system to measure student performance against the common core; and
- Evaluate policy changes needed to help students and educators meet the common core standards and "end-of-high-school" expectations.

An important tenet of this work will be to increase the rigor and relevance of state standards across all participating states; therefore, no state will see a decrease in the level of student expectations that exist in their current state standards.

Process and Structure

- **Common Core State-Based Leadership.** The Council of Chief State School Officers (CCSSO) and the National Governors Association Center for Best Practices (NGA Center) shall assume responsibility for coordinating the process that will lead to state adoption of a common core of standards (see attached timeline). These organizations represent governors and state commissioners of education who are charged with defining K-12 expectations at the state level.

As such, these organizations will facilitate a state-led process to develop common core standards in English language arts and mathematics that are:

- Fewer, clearer, and higher, to best drive effective policy and practice;
- Aligned with college and work expectations, so that all students are prepared for success upon graduating from high school;
- Inclusive of rigorous content and application of knowledge through high-order skills, so that all students are prepared for the 21st century;
- Internationally benchmarked, so that all students are prepared for succeeding in our global economy and society; and
- Research and evidence-based.

- **National Validation Committee.** CCSSO and the NGA Center will create an expert validation group that will serve a several purposes, including validating end-of-course expectations, providing leadership for the development of K-12 standards, and certifying state adoption of the common core standards. The group will be comprised of national and international experts on standards. Participating states will have the opportunity to nominate individuals to the group. The national validation committee shall provide an independent review of the common core standards. The national validation committee will review the common core as it is developed and offer comments, suggestions, and validation of the process and products developed by the standards development group. The group will use evidence as the driving factor in validating the common core standards.

- **Develop End-of-High-School Expectations.** CCSSO and the NGA Center will convene Achieve, ACT and the College Board in an open, inclusive, and efficient process to develop a set of end-of–high-school expectations in English language arts and mathematics based on evidence. We will ask all participating states to review and provide input on these expectations. This work will be completed by July 2009.

- **Develop K-12 Standards in English Language Arts and Math.** CCSSO and the NGA Center will convene Achieve, ACT, and the College Board in an open, inclusive, and efficient process to develop K-12 standards that are grounded in empirical research and draw on best practices in standards development. We will ask participating states to provide input into the drafting of the common core and work as partners in the common core standards development process. This work will be completed by December 2009.

- **Adoption.** The goal of this effort is to develop a true common core of state standards that are internationally benchmarked. Each state adopting the common core standards either directly or by fully aligning its state standards may do so in accordance with current state timelines for standards adoption not to exceed three (3) years.

  This effort is voluntary for states, and it is fully intended that states adopting the common core standards may choose to include additional state standards beyond the common core standards. States that choose to align their standards to the common core standards agree to ensure that the common core represents at least 85 percent of the state's standards in English language arts and mathematics.

  Further, the goal is to establish an ongoing development process that can support continuous improvement of this first version of the common core standards based on research and evidence-based learning and can support the development of assessments that are aligned to the common core standards across the states, for accountability and other appropriate purposes.

- **National Policy Forum.** CCSSO and the NGA Center will convene a National Policy Forum (Forum) comprised of signatory national organizations (e.g., the Alliance for Excellent Education, Business Roundtable, National School Boards Association, Council of Great City Schools, Hunt Institute, National Association of State Boards of Education, National Education Association, and others) to share ideas, gather input, and inform the common core standards initiative. The forum is intended as a place for refining our shared understanding of the scope and elements of a common core; sharing and coordinating the various forms of implementation of a common core; providing a means to develop common messaging between and among participating organizations; and building public will and support.

- **Federal Role.** The parties support a state-led effort and not a federal effort to develop a common core of state standards; there is, however, an appropriate federal role in supporting this state-led effort. In particular, the federal government can provide key financial support for this effort in developing a common core of state standards and in moving toward common assessments, such as through the Race to the Top Fund authorized in the American Recovery and Reinvestment Act of 2009. Further, the federal government can incentivize this effort through a range of tiered incentives, such as providing states with greater flexibility in the use of existing federal funds, supporting a revised state accountability structure, and offering financial support for states to effectively implement the standards. Additionally, the federal government can provide additional long-term financial support for the development of common assessments, teacher and principal professional development, other related common core standards supports, and a research agenda that can help continually improve the common core standards over time. Finally, the federal government can revise and align existing federal education laws with the lessons learned from states' international benchmarking efforts and from federal research.

Agreement. The undersigned state leaders agree to the process and structure as described above and attest accordingly by our signature(s) below.

Signatures	
Governor:	Sonny Perdue
Chief State School Officer:	Kathy Cox

College and Career Readiness Standards for Reading, Writing, and Speaking and Listening

Draft for Review and Comment

September 21, 2009

College and Career Readiness Standards for Reading, Writing, and Speaking and Listening

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Core Standards for Reading, Writing, and Speaking and Listening

The Core Standards identify essential college- and career-ready skills and knowledge in reading, writing, and speaking and listening across the disciplines. While the English language arts classroom has often been seen as the proper site for literacy instruction, this document acknowledges that the responsibility for teaching such skills must also extend to the other content areas. Teachers in the social and natural sciences, the humanities, and mathematics need to use their content area expertise to help students acquire the discipline-specific skills necessary to comprehend challenging texts and develop deep knowledge in those fields. At the same time, English language arts teachers not only must engage their students in a rich array of literature but also must help develop their students' ability to read complex works of nonfiction independently.

What is taught is just as important as how it is taught; the Core Standards should be accompanied by a comprehensive, content-rich curriculum. While this document defines the outcomes all students need to reach to be college and career ready, many important decisions about curriculum will necessarily be left to states, districts, schools, teachers, professional organizations, and parents. For example, while the standards require that students read texts of sufficient complexity, quality, and range, this document does not contain a required reading list. If states and districts choose to develop one, they should look at the Reading exemplars provided here to get a sense of the level of complexity students must be able to handle independently when they read. Educators can also model their efforts on reading lists from around the nation and the world as long as the texts ultimately included meet the range and content standards in this document.

Standards today must ready students for competition and collaboration in a global, media-saturated environment. Colleges and universities have become international meetinghouses where people from across the globe learn with and from one another. At the same time, business today is truly a worldwide enterprise. Media-related technology helps shape what goes on in both college and the workplace; indeed, it has in some important ways reshaped the very nature of communication. Students who meet the Core Standards will have the reading, writing, speaking, and listening skills to flourish in the diverse, rapidly changing environments of college and careers.

Although reading, writing, and speaking and listening are articulated separately in the standards that follow, these divisions are made for the sake of clarity and manageability. In reality, the processes of communication are tightly interrelated and often reciprocal. The act of reading can no more be separated from the written word than the act of listening can be from the spoken word. When reading, students demonstrate their comprehension most commonly through a spoken or written interpretation of the text. As students solve problems, share insights, and build the

knowledge they need for college and career success, they draw simultaneously on their capacities to read, write, speak, and listen.

Student Practices in Reading, Writing, and Speaking and Listening

The following practices in reading, writing, and speaking and listening undergird and help unify the rest of the standards document. They are the "premises"—broad statements about the nature of college and career readiness in reading, writing, and speaking and listening—that underlie the individual standards statements and cut across the various sections of the document. Every idea introduced here is subsequently represented in one or more places within the larger document.

* * *

Students who are college and career ready exhibit the following capacities in their reading, writing, and speaking and listening:

1. *They demonstrate independence as readers, writers, speakers, and listeners.*

   Students can, without significant scaffolding or support, comprehend and evaluate complex text 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 as well as ask questions and articulate their own ideas.

2. *They build strong content knowledge.*

   Students build a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They demonstrate their ability to become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and the specific in-depth expertise needed to comprehend subject matter and solve problems in different fields. They refine their knowledge and share it through substantive writing and speaking.

3. *They respond to the varying demands of audience, task, purpose, and discipline.*

   Students consider their reading, writing, and speaking and listening in relation to the contextual factors of audience, task, purpose, and discipline. They appreciate nuances, such as how the composition and familiarity of the audience should affect tone. They also know that different disciplines call for different types of evidence (e.g., documentary evidence in history, experimental evidence in the natural sciences).

4. *They comprehend as well as critique.*

   Students are engaged and open-minded—but skeptical—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.

5. *They privilege evidence.*

   Students cite specific textual evidence when offering an oral or written interpretation of a piece of writing. 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.

6. *They care about precision.*

   Students are mindful of the impact of specific words and details, and they consider what would be achieved by different choices. Students pay especially close attention when precision matters most, such as in the case of reviewing significant data, making important distinctions, or analyzing a key moment in the action of a play or novel.

7. *They craft and look for structure.*

   Students attend to structure when organizing their own writing and speaking as well as when seeking to understand the work of others. They understand and make use of the ways of presenting information typical of different disciplines. They observe, for example, how authors of literary works craft the structure to unfold events and depict the setting.

8. *They use technology strategically and capably.*

   Students employ technology thoughtfully to enhance their reading, writing, speaking, and listening. 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.

Introductory Evidence Statement for Reading, Writing, and Speaking and Listening Standards

To develop college- and career-ready standards for Reading, Writing, and Speaking and Listening that are rigorous, relevant, and internationally benchmarked, the work group consulted evidence from a wide array of sources. These included standards documents from high-performing states and nations; student performance data (including assessment scores and college grades); academic research; frameworks for assessments, such as NAEP; and results of surveys of postsecondary instructors and employers regarding what is most important for college and career readiness.

The evidence strongly suggests that similar reading, writing, speaking, and listening skills are necessary for success in both college and the workplace. A review of the standards of high-performing nations also suggests that many of these skills are already required in secondary schools internationally. The work group has endeavored to articulate these skills in the Core Standards, focusing educators, students, parents, and resources on what matters most.

Given that a set of standards cannot be simplistically "derived" from any body of evidence, the work group sometimes relied on reasoned judgment to interpret where the evidence was most compelling. For example, there is not a consensus among college faculty about the need for incoming students to be able to comprehend graphs, charts, and tables and to integrate information in these data displays with the information in the accompanying text. Although some evidence suggests that this skill is critical in the workplace and in some entry-level courses, college faculties from the various disciplines disagree on its value (with science and economics faculty rating it more highly than English and humanities professors do). The work group ultimately included a standard on the integration of text and data because the preponderance of the evidence suggests the skill's importance in meeting the demands of the twenty-first-century workplace and some college classrooms.

In most cases, the evidence is clearer. In writing, for example, there is unequivocal value placed on the logical progression of ideas. The expectation that high school graduates will be able to produce writing that is logical and coherent is found throughout the standards of top-performing countries and states. This ability is also valued highly by college faculty and employers. In response to such clear evidence, the work group included Writing student performance standard #5: "Create a logical progression of ideas or events, and convey the relationships among them."

A bibliography of some of the sources the work group drew upon most is included at the end of this document. The reader should also refer to the Core Standards Web site (http://www.corestandards.org), which contains a list of standards linked to relevant sources of evidence.

Finally, while the standards reflect the best evidence available to date, the decisions the work group made are necessarily provisional. The core should be reexamined periodically as additional research on college and career readiness emerges. Indeed, this document may serve as an agenda for such research.

How to Read the Document

This document is divided into three main sections: strands, applications, and supporting materials.

Strands
There are three *strands*: Reading, Writing, and Speaking and Listening. Although each strand is presented discretely for ease of understanding, the document should be considered a coherent whole.

The three strands are each in turn divided into two sections: S*tandards for Range and Content* and S*tandards for Student Performance*.

> **Standards for Range and Content**
> The Standards for Range and Content in each strand describe the contexts in which college- and career-ready students must be able to read, write, speak, and listen. Rather than merely supplement or illustrate the numbered list of Standards for Student Performance, the Standards for Range and Content are themselves required and carry equal force.
>
> **Standards for Student Performance**
> The Standards for Student Performance in each strand enumerate the essential skills and understandings that students who are college and career ready in reading, writing, speaking, and listening must have no later than the end of high school.

Applications
The clearest examples of the integrated nature of communication are the *Applications of the Core* for Research and Media. The Core Standards for Reading, Writing, and Speaking and Listening have been designed to include the essential skills and knowledge that students need to apply to college and career tasks, such as research and media. Rather than having an additional set of standards that would largely duplicate those already in Reading, Writing, and Speaking and Listening, the document includes the Research and Media applications that draw upon standards already in those strands. This both reaffirms the centrality of the core processes of reading, writing, speaking, and listening and shows how those processes can be combined and extended to describe key communicative acts in the classroom and workplace.

In the Research and Media applications, specific Reading, Writing, and Speaking and Listening standards are identified with a letter or letters corresponding to the relevant strand (R for Reading, W for Writing, and S&L for Speaking and Listening) and a number or letter corresponding to the statement within that strand. For example, R-14 refers to the fourteenth statement in the Standards for Student Performance in Reading, and W-A refers to the first statement of the Standards for Range and Content in Writing.

Supporting Materials: Reading and Writing Exemplars
Reading and Writing exemplars, and their accompanying annotations, are used to lend further specificity to the standards.

> **Reading Exemplars**
> The Reading exemplars, representing a range of subject areas, time periods, cultures, and formats, illustrate the level of text complexity students ready for college and careers must be able to handle on their own. The exemplars are mostly excerpts or representations of larger works. To be truly college and career ready, students must be able to handle full texts—poems, short stories, novels, technical manuals, research reports, and the like. Annotations accompanying the exemplars explain how each text meets the criterion of high text complexity. The annotations also provide brief performance examples that further clarify the meaning and application of the standards.
>
> ~~Writing Exemplars~~ **- Coming in the next draft**
> ~~The Writing exemplars are authentic samples of student writing created across the nation under a variety of conditions and for a variety of purposes and audiences. Annotations accompanying the exemplars indicate how these samples meet the Standards for Student Performance in Writing.~~

Appendix B2: Draft Standards in ELA and Mathematics

Core Standards for Reading Informational and Literary Texts

Standards for the Range and Content of Student Reading

A. **Complexity:** A crucial factor in readiness for college and careers is students' ability to comprehend complex texts independently. In college and careers, students will need to read texts characterized by demanding vocabulary, subtle relationships among ideas or characters, a nuanced rhetorical style and tone, and elaborate structures or formats. These challenging texts require the reader's close attention and often demand rereading in order to be fully understood.

B. **Quality:** The literary and informational texts chosen for study should be rich in content and in a variety of disciplines. All students should have access to and grapple with works of exceptional craft and thought both for the insights those works offer and as models for students' own thinking and writing. These texts should include classic works that have broad resonance and are alluded to and quoted often, such as influential political documents, foundational literary works, and seminal historical and scientific texts. Texts should also be selected from among the best contemporary fiction and nonfiction and from a diverse range of authors and perspectives.

C. **Vocabulary:** To be college and career ready, students must encounter and master a rich vocabulary. Complex texts often use challenging words, phrases, and terms that students typically do not encounter in their daily lives. Specific disciplines and careers have vocabularies of their own. Attentive reading of sophisticated works in a wide range of fields, combined with close attention to vocabulary, is essential to building comprehension and knowledge.

D. **Range:** Students must be able to read a variety of literature, informational texts, and multimedia sources in order to gain the knowledge base they need for college and career readiness.

   Literature: Literature enables students to access through imagination a wide range of experiences. By immersing themselves in literature, students enlarge their experiences and deepen their understanding of their own and other cultures. Careful reading of literature entails attentiveness to craft and details of design, which has broad value for students' work in college and career environments.

   Informational Text: Because most college and workplace reading is nonfiction, students need to hone their ability to acquire knowledge from informational texts. Workplace and discipline-specific reading will often require students to demonstrate persistence as they encounter a large amount of unfamiliar and often technical vocabulary and concepts. Students must demonstrate facility with the features of texts particular to a variety of disciplines, such as history, science, and mathematics.

   Multimedia Sources: Students must be able to integrate what they learn from reading text with what they learn from audio, video, and other digital media. Many of the same critical issues that students face when reading traditional printed texts will arise as they seek to comprehend multimedia, such as determining where the author has chosen to focus, evaluating evidence, and comparing different accounts of similar subjects.

E. **Quantity:** Students must have the capacity to handle independently the quantity of reading material, both in print and online, required in college and workforce training. Studies show that the amount of reading students face in high school is often far lower than that required for typical first-year college courses. Students need to be able to perform a close reading of a much higher volume of texts and to sort efficiently through large amounts of print and online information in search of specific facts or ideas.

Note: *The essential role of independence in college and career readiness:* The significant scaffolding that often accompanies reading in high school usually disappears in college and workforce training environments. Students must therefore have developed their ability to read texts of sufficient complexity, quality, and range on their own. To become independent, students must encounter unfamiliar texts presented without supporting materials.

Core Standards for Reading Informational and Literary Texts

Standards for Student Performance

1. Determine both what the text says explicitly and what can be inferred logically from the text.
2. Support or challenge assertions about the text by citing evidence in the text explicitly and accurately.
3. Discern the most important ideas, events, or information, and summarize them accurately and concisely.
4. Delineate the main ideas or themes in the text and the details that elaborate and support them.
5. Determine when, where, and why events unfold in the text, and explain how they relate to one another.
6. Analyze the traits, motivations, and thoughts of individuals in fiction and nonfiction based on how they are described, what they say and do, and how they interact.
7. Determine what is meant by words and phrases in context, including connotative meanings and figurative language.
8. Analyze how specific word choices shape the meaning and tone of the text.
9. Analyze how the text's organizational structure presents the argument, explanation, or narrative.
10. Analyze how specific details and larger portions of the text contribute to the meaning of the text.
11. Synthesize data, diagrams, maps, and other visual elements with words in the text to further comprehension.
12. Extract key information efficiently in print and online using text features and search techniques.
13. Ascertain the origin, credibility, and accuracy of print and online sources.
14. Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient.
15. Analyze how two or more texts with different styles, points of view, or arguments address similar topics or themes.
16. Draw upon relevant prior knowledge to enhance comprehension, and note when the text expands on or challenges that knowledge.
17. Apply knowledge and concepts gained through reading to build a more coherent understanding of a subject, inform reading of additional texts, and solve problems.
18. Demonstrate facility with the specific reading demands of texts drawn from different disciplines, including history, literature, science, and mathematics.

Note: *These Standards for Student Performance, as is the case for every strand, must be demonstrated across the range and content from the preceding page.* They are meant to apply to fiction and nonfiction. For example:
- "Determine when, where, and why events unfold" applies to plot and setting in literature as well as the sequence of a scientific procedure.
- "Analyze the traits, motivations, and thoughts of individuals" applies to studying characters in fiction and figures in historical texts.

Appendix B2: Draft Standards in ELA and Mathematics

Core Standards for Writing

Standards for the Range and Content of Student Writing

A. **Purpose:**

Make an Argument: While many high school students have experience presenting their opinions, they need to be able to make arguments supported by evidence in order to be ready for careers and college. Students must be able to frame the debate over a claim, present the reasoning and evidence for the argument, and acknowledge and address its limitations. In some cases, students will make arguments to gain entry to college or to obtain a job, laying out their qualifications or experience. In college, students might defend an interpretation of a work of literature or of history; in the workplace, employees might write to recommend a course of action.

Inform or Explain: In college and in workforce training, writing is a key means for students to show what they know and to share what they have seen. Writing to inform or explain often requires students to integrate complex information from multiple sources in a lucid fashion. Explanations can take the form of laying out facts about a new technology or documenting findings from historical research; well-crafted explanations often make fresh connections and express ideas creatively.

B. **Audience:** Students must adapt their writing so that it is appropriate to the audience by choosing words, information, structures, and formats that conform to the conventions of the discipline in which they are writing. The form and use of evidence in literary analysis, for example, are likely to be quite different from those in geology or business. Students must also be able to consider their audience's background knowledge and potential objections to an argument.

C. **Situation:**

On-demand Writing: Students must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline. College and career readiness requires that students be able to write effectively to a prompt on an exam or respond quickly yet thoughtfully to a supervisor's urgent request for information.

Writing over Time: Students must be able to revisit and make improvements to a piece of their writing over multiple drafts when circumstances encourage or require it. To improve writing through revision, students must be capable of distinguishing good changes from ones that would weaken the writing.

D. **Technology and Collaboration:** Technology offers students powerful tools for producing, editing, and distributing writing as well as for collaboration. Especially in the workplace, writers often use technology to produce documents and to provide feedback.

E. **Quantity:** The evidence is clear that, in order to become better writers, students must devote significant time to producing writing. Students must practice writing several analytical pieces each term if they are to achieve the deep analysis and interpretation of content expected for college and careers.

Note on narrative writing:

Narrative writing is an important mode of writing; it is also a component of making an argument and writing to inform or explain. Telling an interesting story effectively or providing an accurate account of a historical incident requires the skillful use of narrative techniques. Narrative writing requires that students present vivid, relevant details to situate events in a time and place and also craft a structure that lends a larger shape and significance to those details. As an easily grasped and widely used way to share information and ideas with others, narrative writing is a principal stepping-stone to writing forms directly relevant to college and career readiness.

Core Standards for Writing

Standards for Student Performance

1. Establish and refine a topic or thesis that addresses the specific task and audience.
2. Gather the information needed to build an argument, provide an explanation, or address a research question.
3. Sustain focus on a specific topic or argument.
4. Support and illustrate arguments and explanations with relevant details, examples, and evidence.
5. Create a logical progression of ideas or events, and convey the relationships among them.
6. Choose words and phrases to express ideas precisely and concisely.
7. Use varied sentence structures to engage the reader and achieve cohesion between sentences.
8. Develop and maintain a style and tone appropriate to the task, purpose, and audience.
9. Demonstrate command of the conventions of standard written English, including grammar, usage, and mechanics.
10. Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism.
11. Assess the quality of one's own writing, and, when necessary, strengthen it through revision.
12. Use technology as a tool to produce, edit, and distribute writing.

When **writing to inform or explain**, students must also do the following:

13. Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information.
14. Convey complex information clearly and coherently to the audience through purposeful selection and organization of content.
15. Demonstrate understanding of content by reporting facts accurately and anticipating reader misconceptions.

When **writing arguments**, students must also do the following:

16. Establish a substantive claim, distinguishing it from alternate or opposing claims.
17. Link claims and evidence with clear reasons, and ensure that the evidence is relevant and sufficient to support the claims.
18. Acknowledge competing arguments or information, defending or qualifying the initial claim as appropriate.

Note: "The conventions of standard written English" encompass a range of commonly accepted language practices designed to make writing clear and widely understood. When formal writing contains errors in grammar, usage, and mechanics, its meaning is obscured, its message is too easily dismissed, and its author is often judged negatively. Proper sentence structure, correct verb formation, careful use of verb tense, clear subject-verb and pronoun-antecedent agreement, conventional usage, and appropriate punctuation are of particular importance to formal writing.

Core Standards for Speaking and Listening

Standards for the Range and Content of Student Speaking and Listening

A. **Group and One-to-One Situations:** Students are expected to be able to speak and listen effectively in both groups and one-to-one. Success in credit-bearing college coursework, whether in the humanities, mathematics, or the sciences, depends heavily on being able to take in and respond to the concepts and information conveyed in lectures and class discussions. Success in the workplace is similarly dependent on listening attentively to colleagues and customers and expressing ideas clearly and persuasively.

   These speaking and listening skills may need to be applied differently in different settings. The immediate communication between two people might be replaced by formal turn taking in large-group discussions. When working in classroom or workplace teams, students should be able to ask questions that initiate thoughtful discussions, gain the floor in respectful ways, and build on the contributions of others to complete tasks or reach consensus.

B. **Varied Disciplinary Content:** Students must adapt their speaking and listening to a range of disciplines to communicate effectively. Each academic discipline and industry has its own vocabulary and conventions; for instance, evidence is handled and discussed differently in literary analysis than in history or medicine or the sciences. College- and career-ready students must develop a foundation of disciplinary knowledge and conventions in order not only to comprehend the complexity of information and ideas but also to present and explain them.

C. **Multimedia Comprehension:** New technologies expand the role that speaking and listening skills will play in acquiring and sharing knowledge. Students will need to view and listen to diverse media to gain knowledge and also must integrate this information with what they learn through reading text online as well as in print. When speaking, students can draw on media to illustrate their points, make data and evidence vivid, and engage their audience. Multimedia accelerates the speed at which connections between reading, writing, speaking, and listening can be made, requiring students to be ready to use these skills nearly simultaneously.

Core Standards for Speaking and Listening

Standards for Student Performance

1. Select and use a format, organization, and style appropriate to the topic, purpose, and audience.
2. Present information, findings, and supporting evidence clearly and concisely.
3. Make strategic use of multimedia elements and visual displays of data to gain audience attention and enhance understanding.
4. Demonstrate command of formal Standard English when appropriate to task and audience.
5. Listen to complex information, and discern the main ideas, the significant details, and the relationships among them.
6. Follow the progression of the speaker's message, and evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric.
7. Ask relevant questions to clarify points and challenge ideas.
8. Respond constructively to advance a discussion and build on the input of others.

Note: "Style appropriate to the topic, purpose, and audience" includes word choice specific to the demands of the discipline as well as delivery techniques such as gestures and eye contact that contribute to effective message delivery.

"Evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric" includes distinguishing facts from opinions and determining whether the speaker is biased and evidence has been distorted.

Appendix B2: Draft Standards in ELA and Mathematics

Application of the Core: Research

The Core Standards for Reading, Writing, and Speaking and Listening have been designed to include the essential skills and knowledge that students need to apply to college and career tasks such as research. This section shows how standards in the core incorporate the skills of research.

To be college and career ready, students must engage in research and present their findings in writing and orally, in print and online. The ability to conduct research independently and effectively plays a fundamental role in gaining knowledge and insight in college and the workplace.

Research as described here is not limited to the formal, extended research paper nor simply to gathering information from books; rather, research encompasses a flexible yet systematic approach to resolving questions and investigating issues through the careful collection, analysis, synthesis, and presentation of information from a wide range of print and digital sources, such as historical archives and online interviews. With well-developed research skills, students have the tools to engage in sustained inquiry as well as the sort of short, focused research projects that typify many assignments in college and the workplace.

Research in the digital age offers new possibilities as well as new or heightened challenges. While the Internet provides ready access to unprecedented amounts of primary and secondary source material (such as oral histories, historical documents, maps, and scientific reports), students sorting through this wealth of data must be skilled at and vigilant in determining the origin and credibility of these sources.

The following Core Standards pertain to elements of the research process and particular research skills required for college and career readiness:

Formulate research questions:
- Establish and refine a topic or thesis that addresses the specific task and audience. (W-1)
- Establish a substantive claim, distinguishing it from alternate or opposing claims. (W-16)

Gather and evaluate relevant information from a range of sources:
- Gather the information needed to build an argument, provide an explanation or address a research question. (W-2)
- Extract key information efficiently in print and online using text features and search techniques. (R-12)
- Ascertain the origin, credibility, and accuracy of print and online sources. (R-13)
- Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient. (R-14)
- Follow the progression of the speaker's message and evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric. (S&L-6)

Analyze research sources:
- Delineate the main ideas or themes in the text and the details that elaborate and support them. (R-4)
- Listen to complex information and discern the main ideas, the significant details, and the relationships among them. (S&L-5)
- Discern the most important ideas, events, or information and summarize them accurately and concisely. (R-3)
- Synthesize data, diagrams, maps, and other visual elements with words in the text to further comprehension. (R-11)
- Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information. (W-13)
- Analyze how two or more texts with different styles, points of view, or arguments address similar topics or themes. (R-15)
- Acknowledge competing arguments or information, defending or qualifying the initial claim as appropriate. (W-18)

Report findings:
- Link claims and evidence with clear reasons and ensure that the evidence is relevant and sufficient to support the claims. (W-17)
- Convey complex information clearly and coherently to the audience through purposeful selection and organization of the content. (W-14)
- Demonstrate understanding of the content by reporting the facts accurately and anticipating reader misconceptions. (W-15)
- Present information, findings, and supporting evidence, clearly and concisely. (S&L-2)
- Support and illustrate arguments and explanations with relevant details, examples, and evidence. (W-4)
- Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism. (W-10)

4-A

Application of the Core: Media

The Core Standards for Reading, Writing, and Speaking and Listening have been designed to include the essential skills and knowledge that students need to apply to college and career tasks such as media analysis and creation. This section shows how standards in the core apply to media.

Rapidly evolving technologies are powerful tools—but only for those who have the skills to put them to work. As the capability of the technology grows, students' command of these skills must only increase.

At the core of media mastery are the same fundamental capacities as are required offline in traditional print forms: an ability to access, understand, and evaluate complex materials and messages and to produce clear, effective communications. Media mastery does, however, call upon students to apply these core skills in new ways and contexts. Media enable students to communicate quickly with a large, often unknown, and broadly diverse audience. Whereas in the past, students may have had days or weeks to digest new information and formulate a response, the online environment pushes students to exercise judgment and present their responses in a matter of minutes.

Speed is not the only new factor. In the electronic world, reading, writing, speaking, and listening are uniquely intertwined. Multimedia forms force students to engage with constantly changing combinations of elements, such as graphics, images, hyperlinks, and embedded video and audio. The technology itself is changing quickly, creating new urgency for adaptation and flexibility on the part of students.

The following Core Standards describe the particular reading, writing, speaking, and listening skills that students will need in order to use media effectively in college and careers:

Standards for Range and Content drawn from each strand

Multimedia Sources: Students must be able to integrate what they learn from reading text with what they learn from audio, video, and other digital media. Many of the same critical issues that students face when reading traditional printed texts will arise as they seek to comprehend multimedia, such as determining where the author has chosen to focus, evaluating evidence, and comparing different accounts of similar subjects. [R-D]

Technology and Collaboration: Technology offers students powerful tools for producing, editing, and distributing writing as well as for collaboration. Especially in the workplace, writers often use technology to produce documents and to provide feedback. [W-D]

Multimedia Comprehension: New technologies expand the role that speaking and listening skills will play in acquiring and sharing knowledge. Students will need to view and listen to diverse media to gain knowledge and integrate this information with what they learn through reading text online as well as in print. When speaking, students can draw on media to illustrate their points, make data and evidence vivid, and engage their audiences. Multimedia accelerates the speed at which connections between reading, writing, and speaking and listening can be made, requiring students to be ready to use these skills nearly simultaneously. [S&L-C]

Standards for Student Performance drawn from each strand

Gather information from a wide array of electronic sources and multimedia:
- Extract key information efficiently in print and online using text features and search techniques. (R-12)
- Synthesize data, diagrams, maps, and other visual elements with words in the text to further comprehension. (R-11)
- Listen to complex information and discern the main ideas, the significant details, and the relationships among them. (S&L-5)

Evaluate information from digital media:
- Ascertain the origin, credibility, and accuracy of print and online sources. (R-13)
- Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient. (R-14)
- Follow the progression of the speaker's message and evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric. (S&L-6)

Create and distribute media communications:
- Use technology as a tool to produce, edit, and distribute writing. (W-12)
- Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information. (W-13)
- Make strategic use of multimedia elements and visual displays of data to gain audience attention and enhance understanding. (S&L-3)

4-B

Illustrative Texts

Exemplars of Reading Text Complexity

As described in the Standards for the Range and Content of Student Reading, college- and career-ready students must be able to read texts of sufficient complexity on their own. Studies show that many students who are unable to read sufficiently challenging texts independently by the end of high school struggle with the reading demands of college; many twenty-first-century careers likewise demand that people be able to obtain, search through, and comprehend large amounts of often technical information.

To develop that ability, students should engage with high-quality texts that provide strong models of thinking and writing, that challenge them intellectually, and that introduce them to rich content, sophisticated vocabulary, and examples of exceptional craft. The reading students do should be broad and deep, allowing them to extend their knowledge of particular subjects as well as learn about the features of texts written for different disciplines, audiences, and purposes. While no sampling can do justice to the numerous ways in which different authors craft complex prose, as a collection the exemplar texts below illustrate the level of complexity that college- and career-ready students should be able to handle independently by the end of high school. Texts in translation have not been included in this draft but will be part of future drafts.

How Text Complexity was Determined

In addition to surveys of required reading in twelfth grade and the first year of college as well as consultations with experts, two leading measurement systems were used to help make the selections below. The first system—a methodology described by Jeanne Chall and her coauthors in *The Qualitative Assessment of Text Difficulty*—employs trained raters to measure the sophistication of vocabulary, density of ideas, and syntactic complexity in a text as well as the general and subject-specific knowledge and the level of reasoning required for understanding it. The second system, Coh-Metrix, incorporates into its computer-based analysis more than sixty specific indices of syntax, semantics, readability, and cohesion to assess text complexity. Central to its assessment are measures of text cohesiveness, which is the degree to which the text uses explicit markers to link ideas. By analyzing the degree to which those links are missing in a text—and therefore the degree to which a reader must make inferences to connect ideas—this measure gauges a key factor in the comprehension demand of a text.

The two methods described above have limitations. The complexity of poems (such as "O Captain! My Captain!") cannot be assessed by Coh-Metrix because poetry adheres to different rules of construction than does prose. Similarly, while individual stories in the sample *New York Times* front pages can be measured for complexity by Coh-Metrix, the method does not capture how the electronic environment enhances or detracts from readability. However, for those exemplar texts whose complexity could be measured by both systems, comparable results were yielded by Coh-Metrix and the Chall method.

Note: The samples of complex text are supplemented by brief performance examples that further clarify the meaning of the standards. These illustrate specifically the application of the performance standards to texts of sufficient complexity, quality, and range. Relevant standards are noted in brackets following each sample performance.

Notes on Illustrative Text #1

Pride and Prejudice by Jane Austen

Jane Austen's *Pride and Prejudice* is a sophisticated literary text featuring multiple plotlines, a style and word choice reflective of its time period and setting, and subtle relationships among characters; the excerpt here can only illustrate some of the complexities that readers of the full work will encounter. The novel's opening sentence—"It is a truth universally acknowledged, that a single man in possession of a good fortune, must be in want of a wife"—signals that today's readers will need to employ literary imagination and historical context to re-create for themselves a world largely in the past. The novel's style is elaborate, with many lengthy and, to the modern ear, formal-sounding sentences typical of the period during which the novel was written. While the dialogue is less formal than much of the surrounding text, words and phrases such as *let* (to mean "rent" or "lease") and *chaise and four* (referring to a type of carriage) mark the novel's setting. The excerpt suggests also the kind of close reading of the subtleties of character that readers must perform. The banter between Mr. and Mrs. Bennet reveals both affection and difference of opinion, and it offers clues to the mores of well-to-do English society in the early nineteenth century.

Sample performance aligned with the Core Standards

Students analyze the first impressions given of Mr. and Mrs. Bennet in the first chapter of *Pride and Prejudice* based on how the characters are described, what they say and do, and how they interact. Students compare these first impressions with their later understanding based on how the characters develop throughout the novel. [R-6]

Illustrative Text #1

from *Pride and Prejudice*

Chapter 1

It is a truth universally acknowledged, that a single man in possession of a good fortune, must be in want of a wife.

However little known the feelings or views of such a man may be on his first entering a neighbourhood, this truth is so well fixed in the minds of the surrounding families that he is considered as the rightful property of some one or other of their daughters.

"My dear Mr. Bennet," said his lady to him one day, "have you heard that Netherfield Park is let at last?"

Mr. Bennet replied that he had not.

"But it is," returned she; "for Mrs. Long has just been here, and she told me all about it."

Mr. Bennet made no answer.

"Do not you want to know who has taken it?" cried his wife impatiently.

"*You* want to tell me, and I have no objection to hearing it."

This was invitation enough.

"Why, my dear, you must know, Mrs. Long says that Netherfield is taken by a young man of large fortune from the north of England; that he came down on Monday in a chaise and four to see the place, and was so much delighted with it, that he agreed with Mr. Morris immediately; that he is to take possession before Michaelmas, and some of his servants are to be in the house by the end of next week."

"What is his name?"

"Bingley."

"Is he married or single?"

"Oh! single, my dear, to be sure! A single man of large fortune; four or five thousand a year. What a fine thing for our girls!"

"How so? how can it affect them?"

"My dear Mr. Bennet," replied his wife, "how can you be so tiresome! You must know that I am thinking of his marrying one of them."

"Is that his design in settling here?"

"Design! nonsense, how can you talk so! But it is very likely that he *may* fall in love with one of them, and therefore you must visit him as soon as he comes."

"I see no occasion for that. You and the girls may go, or you may send them by themselves, which perhaps will be still better, for as you are as handsome as any of them, Mr. Bingley might like you the best of the party."

"My dear, you flatter me. I certainly *have* had my share of beauty, but I do not pretend to be any thing extraordinary now. When a woman has five grown-up daughters she ought to give over thinking of her own beauty."

"In such cases a woman has not often much beauty to think of."

"But, my dear, you must indeed go and see Mr. Bingley when he comes into the neighbourhood."

"It is more than I engage for, I assure you."

"But consider your daughters. Only think what an establishment it would be for one of them. Sir William and Lady Lucas are determined to go, merely on that account, for in general, you know, they visit no new-comers. Indeed you must go, for it will be impossible for us to visit him if you do not."

"You are over-scrupulous surely. I dare say Mr. Bingley will be very glad to see you; and I will send a few lines by you to assure him of my hearty consent to his marrying whichever he chuses of the girls: though I must throw in a good word for my little Lizzy."

"I desire you will do no such thing. Lizzy is not a bit better than the others; and I am sure she is not half so handsome as Jane, nor half so good-humoured as Lydia. But you are always giving *her* the preference."

"They have none of them much to recommend them," replied he; "they are all silly and ignorant, like other girls; but Lizzy has something more of quickness than her sisters."

"Mr. Bennet, how can you abuse your own children in such a way! You take delight in vexing me. You have no compassion on my poor nerves."

"You mistake me, my dear. I have a high respect for your nerves. They are my old friends. I have heard you mention them with consideration these twenty years at least."

"Ah! you do not know what I suffer."

"But I hope you will get over it, and live to see many young men of four thousand a year come into the neighbourhood."

"It will be no use to us if twenty such should come, since you will not visit them."

"Depend upon it, my dear, that when there are twenty, I will visit them all."

Mr. Bennet was so odd a mixture of quick parts, sarcastic humour, reserve, and caprice, that the experience of three-and-twenty years had been insufficient to make his wife understand his character. *Her* mind was less difficult to develope. She was a woman of mean understanding, little information, and uncertain temper. When she was discontented she fancied herself nervous. The business of her life was to get her daughters married; its solace was visiting and news.

Notes on Illustrative Text #2

"O Captain! My Captain!" by Walt Whitman

Though poetry's complexity cannot be assessed by the measures of readability used for the prose exemplars, "O Captain! My Captain!" by Walt Whitman clearly has many of the features of complex texts listed in the Standards for the Range and Content of Student Reading. Modern readers must work to understand what would have been obvious to readers in 1865: "O Captain! My Captain!" is an extended-metaphor poem intended to convey Whitman's and the North's grief over the assassination of Abraham Lincoln so near the conclusion of hostilities in the Civil War. Every element in the poem stands for something else, with the captain representing Lincoln, the ship representing the Union (or the "ship of state"), the voyage representing the war, and so on. Historical context, along with skill in reading literature, is thus particularly important to interpreting this text.

Sample performance aligned with the Core Standards

Students apply knowledge gained from reading the *New York Times* articles on Lincoln's assassination to their understanding of the poem "O Captain! My Captain!" Specifically, students draw on the description of the crowd's response to the attack on Lincoln to inform their understanding of Whitman's poem. [R-17]

Illustrative Text #2

"O Captain! My Captain!" by Walt Whitman

O Captain! my Captain! our fearful trip is done,
The ship has weather'd every rack, the prize we sought is won,
The port is near, the bells I hear, the people all exulting,
While follow eyes the steady keel, the vessel grim and daring,
But O heart! heart! heart!
O the bleeding drops of red,
Where on the deck my Captain lies,
Fallen cold and dead.

O Captain! my Captain! rise up and hear the bells;
Rise up—for you the flag is flung—for you the bugle trills,
For you bouquets and ribbon'd wreaths—for you the shores a-crowding,
For you they call, the swaying mass, their eager faces turning,
Here, Captain! dear father!
This arm beneath your head;
It is some dream that on the deck
You've fallen cold and dead.

My Captain does not answer, his lips are pale and still
My father does not feel my arm, he has no pulse nor will,
The ship is anchor'd safe and sound, its voyage closed and done,
From fearful trip, the victor ship comes in with object won;
Exult, O shores, and ring O bells!
But I with mournful tread
Walk the deck my Captain lies,
Fallen cold and dead.

Notes on Illustrative Text #3

The front page of the *New York Times*, April 15, 1865

The challenge posed to a modern reader by the front page of the *New York Times* on April 15, 1865, is significant in terms of format, timeliness, and point of view. Unlike the graphically heavy front page of modern newspapers, this 1865 *New York Times* front page is mostly uninterrupted columns of text. The reader is obviously expected to proceed from top to bottom and left to right across the page, but little other guidance is provided. Because the assassination of Lincoln was still "breaking news" as this edition of the *Times* would have gone to press, some details of the event would have not yet been known; readers will have to sort out what they know about the assassination from what the people reading the paper on that Saturday morning would just have been learning. Three accounts of the events rather than one are provided here, and the sourcing and tone vary greatly. Certain details found in one place are contradicted in another: the "Detail of the Occurrence," for example, suggests that Lincoln may not have been mortally wounded, but the main headline in the top left-hand corner of the page states "No Hopes Entertained of His Recovery." While the first two accounts aim at a certain objectivity, the third begins with a flourish that may surprise readers more used to a restrained style of journalism: "A stroke from Heaven laying the whole of the city in instant ruin could not have startled us as did the word that broke from Ford's Theatre a half hour ago that the President had been shot."

Sample performance aligned with the Core Standards

Students analyze how the three different accounts on the front page portray Lincoln's assassination, including which details are similar or different. **[R-15]**

Illustrative Text #3: The front page of the *New York Times*, April 15, 1865

http://timesmachine.nytimes.com/browser/1865/04/15/P1

The New-York Times.

NEW-YORK, SATURDAY, APRIL 15, 1865. PRICE FOUR CENTS.

AWFUL EVENT.

President Lincoln Shot by an Assassin.

The Head Door at Ford's Theatre Last Night.

THE ACT OF A DESPERATE REBEL.

The President Still Alive at Last Accounts.

No Hope Entertained of His Recovery.

Attempted Assassination of Secretary Seward.

DETAILS OF THE DREADFUL TRAGEDY.

[OFFICIAL.]

War Department, Washington, April 15- 1:30 A.M.

Maj.-Gen. Dix:

This evening at about 9:30 P.M., at Ford's Theater, the President, while sitting in his private box with Mrs. Lincoln, Mrs. Harris, and Major Rathbum, was shot by an assassin, who suddenly entered the box and approached behind the President.

The assassin then leaped upon the stage, brandishing a large dagger or knife, and made his escape in the rear of the theater.

EUROPEAN NEWS.

ANOTHER ACCOUNT.

Special Dispatch to the New-York Times.

Washington, Friday, April 14, 11:15 P.M.

A stroke from Heaven laying the whole of the city in instant ruin could not have startled us as did the word that broke from Ford's Theater a half hour ago that the President had been shot. It flew everywhere in five minutes, and set five thousand people in swift and excited motion on the instant.

DETAIL OF THE OCCURRENCE.

Washington, Friday, April 14- 12:30 A.M.

The President was shot in a theater tonight, and is, perhaps, mortally wounded. Secretary Seward was also assassinated.

SECOND DISPATCH.

Washington, Friday, April 14. President Lincoln and wife, with other friends, this evening visited Ford's Theater for the purpose of witnessing the performance of the "American Cousin."

Notes on Illustrative Text #4

The Declaration of Independence

The Declaration of Independence represents the kind of rich primary source material students should be able to read on their own by the end of high school. Though some of the lines ("We hold these truths . . .") are familiar to most American readers, the case against Great Britain that the Declaration lays out, expressed in elevated, sometimes archaic language (*unalienable*, *hath*, *usurpations*), requires careful examination to follow in its particulars. The beginning of the document, excerpted here, poses a reading challenge partly because of its philosophical abstractness. The first three sentences, although formally divided, are one continuous list of propositions ("truths") about the nature of government and the rights of the people. Further complicating the reading is that there is little explicit cohesion between sentences—links supplied by words and phrases such as "for example," "moreover," or "in addition"—to help readers understand the relationship between the ideas being expressed.

Sample performance aligned with the Core Standards

Students compare the argument that the Declaration makes justifying revolution to Martin Luther King, Jr.'s defense of civil disobedience in *Letter from Birmingham Jail*. [R-15]

Illustrative Text #4

from The Declaration of Independence

When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. —That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, —That whenever any Form of Government becomes destructive to these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient causes; and accordingly all experience hath shewn, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new guards for their future security. —Such has been the patient sufferance of these Colonies; and such is now the necessity which constrains them to alter their former Systems of Government. The history of the present King of Great Britain is a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute Tyranny over these States. To prove this, let Facts be submitted to a candid world.

Notes on Illustrative Text #5

Letter from Birmingham Jail by Martin Luther King, Jr.

Martin Luther King, Jr.'s, *Letter from Birmingham Jail* presents many challenges to the reader in terms of its format, purpose, tone, use of allusions, and language. Apart from letters to the editor (most of which are relatively short), public letters such as King's are uncommon today. The purpose of the text may also be confusing: King is ostensibly addressing his "Fellow Clergymen," but skilled readers will reasonably infer that King's message is intended for a broader audience. Though the tone of the text is measured, King's passion for his cause comes through. The author frequently points outside the *Letter* itself through allusions to other texts, including the Hebrew and Christian scriptures. Moreover, King uses sophisticated vocabulary (*cognizant*, *mutuality*, *provincial*, *gainsaying*) and figurative language (*garment of destiny*) throughout his text. However, the piece is both coherent in that its sequence is signaled ("While confined here . . . But more basically . . . Moreover, I am cognizant . . .") and cohesive in that its clauses and sentences are logically linked for the reader ("Just as the prophets . . . and just as the Apostle Paul . . . so am I compelled . . .").

Sample performance aligned with the Core Standards

Students evaluate the reasoning and rhetoric of the three very different arguments King makes to defend his being in Birmingham. Students assess the different kinds of evidence he uses to support each argument. [R-14]

Illustrative Text #5

from *Letter from Birmingham Jail**

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My Dear Fellow Clergymen:

While confined here in the Birmingham city jail, I came across your recent statement calling my present activities "unwise and untimely." Seldom do I pause to answer criticism of my work and ideas. If I sought to answer all the criticisms that cross my desk, my secretaries would have little time for anything other than such correspondence in the course of the day, and I would have no time for constructive work. But since I feel that you are men of genuine good will and that your criticisms are sincerely set forth, I want to try to answer your statements in what I hope will be patient and reasonable terms.

I think I should indicate why I am here In Birmingham, since you have been influenced by the view which argues against "outsiders coming in." I have the honor of serving as president of the Southern Christian Leadership Conference, an organization operating in every southern state, with headquarters in Atlanta, Georgia. We have some eighty-five affiliated organizations across the South, and one of them is the Alabama Christian Movement for Human Rights. Frequently we share staff, educational and financial resources with our affiliates. Several months ago the affiliate here in Birmingham asked us to be on call to engage in a nonviolent direct-action program if such were deemed necessary. We readily consented, and when the hour came we lived up to our promise. So I, along with several members of my staff, am here because I was invited here I am here because I have organizational ties here.

But more basically, I am in Birmingham because injustice is here. Just as the prophets of the eighth century B.C. left their villages and carried their "thus saith the Lord" far beyond the boundaries of their home towns, and just as the Apostle Paul left his village of Tarsus and carried the gospel of Jesus Christ to the far corners of the Greco-Roman world, so am I. compelled to carry the gospel of freedom beyond my own home town. Like Paul, I must constantly respond to the Macedonian call for aid.

Moreover, I am cognizant of the interrelatedness of all communities and states. I cannot sit idly by in Atlanta and not be concerned about what happens in Birmingham. Injustice anywhere is a threat to justice everywhere. We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly. Never again can we afford to live with the narrow, provincial "outside agitator" idea. Anyone who lives inside the United States can never be considered an outsider anywhere within its bounds.

*As reprinted in *Why We Can't Wait* by King, Jr., M. L. (2000). New York City: Signet Classics.

Notes on Illustrative Text #6

Toni Morrison's Nobel lecture, 1993

Toni Morrison's Nobel lecture, though originally delivered orally, can be read on the page as a complex work of analysis and criticism. Its structure, syntax, imagery, language, and density of ideas contribute to the challenge of studying it in this manner. As this excerpt shows, Morrison begins with a folktale. While the "once upon a time" opening may lead readers into thinking that the lecture will primarily be in narrative form, Morrison uses the tale mainly as a springboard for an abstract, allegorical discussion of language, writing, and those who have no voice in society. Morrison often employs sophisticated sentences that require patience and concentration to follow. Readers may recognize places where Morrison varies sentence patterns to change pace and rhythm—particularly important to the oral delivery of the text. The images Morrison creates are powerful and poetic, the diction is elevated and academic, and the word choice is metaphorical and unconventional: "Official language smitheryed to sanction ignorance and preserve privilege is a suit of armor polished to shocking glitter, a husk from which the knight departed long ago." The richness and abstractness of the ideas in the lecture mean that rereadings may be necessary to comprehend and evaluate the ideas fully.

Sample performance aligned with the Core Standards

Students determine what Morrison means when she compares language to "a bird in the hand," including the different connotations of this phrase that she develops throughout the lecture. Students also explore what Morrison means by saying that both the bird and language can be "dead or alive." [R-7]

Illustrative Text #6

from Toni Morrison's Nobel lecture, 1993

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"Once upon a time there was an old woman. Blind but wise." Or was it an old man? A guru, perhaps. Or a griot soothing restless children. I have heard this story, or one exactly like it, in the lore of several cultures.

"Once upon a time there was an old woman. Blind. Wise."

In the version I know the woman is the daughter of slaves, black, American, and lives alone in a small house outside of town. Her reputation for wisdom is without peer and without question. Among her people she is both the law and its transgression. The honor she is paid and the awe in which she is held reach beyond her neighborhood to places far away; to the city where the intelligence of rural prophets is the source of much amusement.

One day the woman is visited by some young people who seem to be bent on disproving her clairvoyance and showing her up for the fraud they believe she is. Their plan is simple: they enter her house and ask the one question the answer to which rides solely on her difference from them, a difference they regard as a profound disability: her blindness. They stand before her, and one of them says, "Old woman, I hold in my hand a bird. Tell me whether it is living or dead."

She does not answer, and the question is repeated. "Is the bird I am holding living or dead?"

Still she doesn't answer. She is blind and cannot see her visitors, let alone what is in their hands. She does not know their color, gender or homeland. She only knows their motive.

The old woman's silence is so long, the young people have trouble holding their laughter.

Finally she speaks and her voice is soft but stern. "I don't know", she says. "I don't know whether the bird you are holding is dead or alive, but what I do know is that it is in your hands. It is in your hands."

Her answer can be taken to mean: if it is dead, you have either found it that way or you have killed it. If it is alive, you can still kill it. Whether it is to stay alive, it is your decision.

Whatever the case, it is your responsibility.

For parading their power and her helplessness, the young visitors are reprimanded, told they are responsible not only for the act of mockery but also for the small bundle of life sacrificed to achieve its aims. The blind woman shifts attention away from assertions of power to the instrument through which that power is exercised.

Speculation on what (other than its own frail body) that bird-in-the-hand might signify has always been attractive to me, but especially so now thinking, as I have been, about the work I do that has brought me to this company. So I choose to read the bird as language and the woman as a practiced writer. She is worried about how the language she dreams in, given to her at birth, is handled, put into service, even withheld from her for certain nefarious purposes. Being a writer she thinks of language partly as a system, partly as a living thing over which one has control, but mostly as agency—as an act with consequences. So the question the children put to her: "Is it living or dead?" is not unreal because she thinks of language as susceptible to death, erasure; certainly imperiled and salvageable only by an effort of the will. She believes that if the bird in the hands of her visitors is dead the custodians are responsible for the corpse. For her a dead language is not only one no longer spoken or written, it is unyielding language content to admire its own paralysis. Like statist language, censored and censoring. Ruthless in its policing duties, it has no desire or purpose other than maintaining the free range of its own narcotic narcissism, its own exclusivity and dominance. However moribund, it is not without effect for it actively thwarts the intellect, stalls conscience, suppresses human potential. Unreceptive to interrogation, it cannot form or tolerate new ideas, shape other thoughts, tell another story, fill baffling silences. Official language smitheryed to sanction ignorance and preserve privilege is a suit of armor polished to shocking glitter, a husk from which the knight departed long ago. Yet there it is: dumb, predatory, sentimental. Exciting reverence in schoolchildren, providing shelter for despots, summoning false memories of stability, harmony among the public.

Notes on Illustrative Text #7

Inquiry into Life, 12th edition, by Sylvia S. Mader

These excerpts, and the prominent college-level biology textbook from which they are drawn, represent some of the challenges presented by complex writing in natural science, including discipline-specific terms (*covalent bond*, *plasma membrane*, *neurotransmitter*), everyday language used in specialized ways (*shell*, *channel*), abbreviations (H^+, *AChE*), and chains of cause-effect relationships that together describe sometimes elaborate processes. Although the figures the author, Sylvia S. Mader, refers to in the text are not included with these excerpts, students reading the larger work will have to integrate words, illustrations, and diagrams to make full sense of the ideas and concepts she describes. For these reasons and others, comprehension may be difficult for readers who have not had experience independently reading similar kinds of text and who lack a knowledge base in the subject. The author does employ a number of cohesive features to help readers understand the terminology and to link ideas. She repeats content words to let readers follow the flow of ideas; she sets up contrastive situations to illustrate the ideas (within, for example, the first and the third paragraphs below); and she uses transitional links ("In some synapses . . . In other synapses . . .") to help readers construct meaning.

Sample performance aligned with the Core Standards

Students discern the most important information in the description of covalent bonding and provide an accurate summary of the concept. [R-3]

Illustrative Text #7

from *Inquiry into Life*, 12th edition

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A **covalent bond** results when two atoms share electrons in such a way that each atom has an octet of electrons in the outer shell. In a hydrogen atom, the outer shell is complete when it contains two electrons. If hydrogen is in the presence of a strong electron acceptor, it gives up its electron to become a hydrogen ion (H^+). But if this is not possible, hydrogen can share with another atom and thereby have a completed outer shell. For example, one hydrogen atom will share with another hydrogen atom. Their two orbitals overlap, and the electrons are shared between them. Because they share the electron pair, each atom has a completed outer shell.

* * * * * * * *

The passage of salt (NaCl) across a plasma membrane is of primary importance to most cells. The chloride ion (Cl^-) usually crosses the plasma membrane because it is attracted by positively charged sodium ions (Na^+). First sodium ions are pumped across a membrane, and then chloride ions simply diffuse through channels that allow their passage.

As noted in Figure 4.2*a*, the genetic disorder cystic fibrosis results from a faulty chloride channel. Ordinarily, after chloride ions have passed though the membrane, sodium ions (Na^+) and water follow. In cystic fibrosis, Cl^- transport is reduced, and so is the flow of Na^+ and water.

* * * * * * * *

Once a neurotransmitter has been released into a synaptic cleft and has initiated a response, it is removed from the cleft. In some synapses, the postsynaptic membrane contains enzymes that rapidly inactivate the neurotransmitter. For example, the enzyme **acetylcholinesterase (AChE)** breaks down acetylcholine. In other synapses, the presynaptic membrane rapidly reabsorbs the neurotransmitter, possibly for repackaging in synaptic vesicles or for molecular breakdown. The short existence of neurotransmitters at a synapse prevents continuous stimulation (or inhibition) of postsynaptic membranes.

Notes on Illustrative Text #8

Sample business memo (ACT WorkKeys Reading for Information Test)

Though not a typical kind of reading in high school classrooms, the business communication, such as the one sampled here, is a form that career-ready students will need to be able to comprehend independently. This text, taken from ACT's WorkKeys Reading for Information Test, is challenging in large part because, like many such communications, it contains important, detailed information intended for a specialized audience. Structurally, the text offers little guidance on how it should be read. Potentially vital details appear throughout and are mingled with other details irrelevant to some readers (e.g., those without children). Even the paragraphing is somewhat inconsistent, especially between the first and second paragraphs. While the sentences are not particularly long and the language is not overly technical, the density of information and its lack of prioritization make this a complex text.

Sample performance aligned with the Core Standards

Students infer from the memo the conditions under which children who are under nineteen are not covered by the health plan. [R-1]

Illustrative Text #8

Sample business memo

WorkKeys Reading for Information Test has been reproduced with permission of ACT, Inc.

DETERMINING ELIGIBILITY FOR MEDICAL COVERAGE

All full-time employees of the company who work an average of at least 30 hours per week are eligible under this plan. Coverage begins on the first day of the month following the 30 days of active full-time employment. If employees enroll within 31 days of the date they are eligible, medical evidence of good health is not required. Temporary and part-time employees are not eligible. Employees are no longer eligible under this plan one month after the date they begin active duty in the armed forces of any country and continuing for the duration of their service.

If employees enroll their dependents within 31 days of the date they become eligible, medical evidence of good health is not required. If they do not, they will be required to submit evidence of good health for each dependent, at their expense, which is satisfactory to the company.

The following dependents are eligible under this plan: employees' spouses, employees' unmarried children under age 19, employees' unmarried dependent children under age 23 who are attending trade school, college, or university on a full-time basis, or employees' unmarried disabled children age 19 and over. Coverage ceases when spouses or children cease to be dependent upon employees for support. In the case of employees' spouses this is if they are legally separated or divorced. In the case of disabled children, this is when they are no longer disabled. Coverage will cease when dependents have served in the armed forces of any country for more than one month, or when maximum benefits have been paid.

Notes on Illustrative Text #9

FedViews, July 9, 2009, by Mary C. Daly
(The Federal Reserve Bank of San Francisco's Web site)

This text illustrates some of the difficulties posed by integrating information gained from words and graphics. This sort of challenge is common in writing designed to inform or explain, including writing in the workplace. The bullet point format used here means that the kind of explicit transitions between ideas typically found in prose are missing; readers will have to infer relationships between the points made by the author, Mary C. Daly, and synthesize the information into a coherent whole. Readers will furthermore have to analyze both the words and the graphics, integrate the information, and check to see whether each source of information supports the other. Daly also uses a great deal of specialized language; the terms *feedback loop*, *credit availability*, and *barriers to credit* all appear in just the first bullet point here.

Sample performance aligned with the Core Standards

Students synthesize information drawn from the text as well as the graphs in order to gain an overarching view of the economy on July 9, 2009. [R-11]

Illustrative Text #9

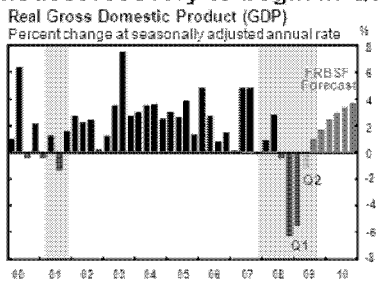
from FedViews, July 9, 2009

Reprinted from the Federal Reserve Bank of San Francisco's FedViews of July 9, 2009. The opinions expressed in this article do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, or of the Board of Governors of the Federal Reserve System.

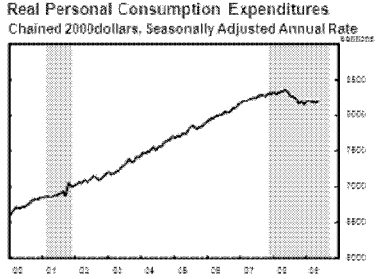
Mary C. Daly, vice president and director of the Center for the Study of Innovation and Productivity at the Federal Reserve Bank of San Francisco, states her views on the current economy and the outlook.

- Financial markets are improving, and the crisis mode that has characterized the past year is subsiding. The adverse feedback loop, in which losses by banks and other lenders lead to tighter credit availability, which then leads to lower spending by households and businesses, has begun to slow. As such, investors' appetite for risk is returning, and some of the barriers to credit that have been constraining businesses and households are diminishing.
- Income from the federal fiscal stimulus, as well as some improvement in confidence, has helped stabilize consumer spending. Since consumer spending accounts for two-thirds of all economic activity, this is a key factor affecting our forecast of growth in the third quarter.
- The gradual nature of the recovery will put additional pressure on state and local budgets. Following a difficult 2009, especially in the West, most states began the 2010 fiscal year on July 1 with even larger budget gaps to solve.
- Still, many remain worried that large fiscal deficits will eventually be inflationary. However, a look at the empirical link between fiscal deficits and inflation in the United States shows no correlation between the two. Indeed, during the 1980s, when the United States was running large deficits, inflation was coming down.

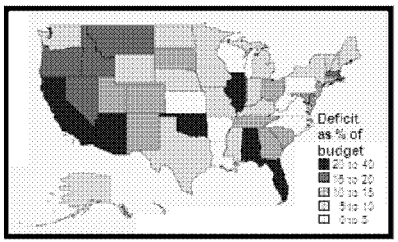
Modest recovery to begin in Q3



Consumers hanging on

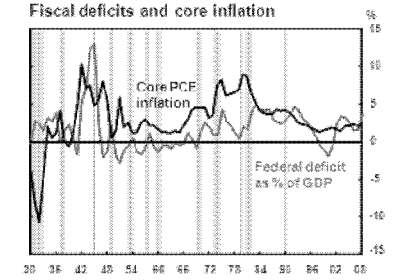


State budget gaps pervasive in 2009



27

No link between deficits and inflation



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Appendix B2: Draft Standards in ELA and Mathematics

Notes on Illustrative Text #10

The front page of the *New York Times*, Web version, August 18, 2009, 9:03 a.m. ET

The challenge offered by this online text and others like it is very different from that offered by a complex continuous text in, say, the sciences. The brief passages are not conceptually difficult, the language is not technical or esoteric, and the sentences are not particularly complex. But these characteristics belie the complexity of the reading task. An online text of this kind requires readers to apply their print-reading skills in tandem with their knowledge of how to use online periodicals. The editors and designers have assigned levels of importance to individual stories and images, as measured by their size and position in the layout. The page itself uses words, numbers, icons, and other visual elements (e.g., line, color, and shape) to guide readers further. Headings in various colors direct readers to particular sections (OPINION, MARKETS, HEALTH), while links direct readers to particular stories ("Taliban Talks Are Key Issue in Afghan Vote"). Time markers ("3 minutes ago") help readers assess how new the information in a given story is. The text requires readers to make choices about which links to follow based on their understanding of how online text is typically structured and on a minimum of additional information (e.g., an icon of a camera, a drop-down menu in an ad).

Sample performance aligned with the Core Standards

Students select an article and use search terms and other features of the online text to research a specific aspect of the subject in more depth. [R-12]

Illustrative Text #10

The front page of the *New York Times*, Web version, August 18, 2009, 9:03 a.m. ET

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Appendix B2: Draft Standards in ELA and Mathematics

Sample of Works Consulted

I. College Readiness

A. Achieve, Inc. (2004). The American Diploma Project, *Ready or Not: Creating a High School Diploma that Counts*. Washington, DC: Achieve, Inc. (PDF)

B. Achieve, Inc. (2008) *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up*. Washington, DC: Achieve, Inc. (PDF)

C. ACT. (2009). *ACT College Ready English Standards*. Iowa City, IA: ACT. (PDF)

D. ACT. (2006). *ACT National Curriculum Survey 2005-2006*. Iowa City, IA: ACT. (PDF)

E. ACT. (2007). *Aligning Postsecondary Expectations and High School Practice: The Gap Defined (Policy Implications of the ACT National Curriculum Survey Results 2005-2006)*. Iowa City, IA: ACT. (PDF)

F. ACT. (2006). *Reading Between the Lines: What the ACT Reveals about College Readiness in Reading*. Iowa City, IA: ACT. (PDF)

G. ACT. (2006). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT. (PDF)

H. ACT. (2007). *Rigor at Risk: Reaffirming Quality in the High School Core Curriculum*. Iowa City, IA: ACT. (PDF)

I. College Board (2008) *AP English Language and Composition and English Literature and Composition Course Description*. New York, NY: College Board. (PDF)

J. College Board (2009) *AP European History Course Description*, New York, NY: College Board. (PDF)

K. College Board (2009) *AP World History Course Description*, New York, NY: College Board. (PDF)

L. College Board. (2006). *College Board Standards for College Success*. New York, NY: College Board. (PDF)

M. Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success*. Eugene, OR: Center for Educational Policy Research.

N. Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities*. (PDF)

O. Marzano, R.J. and Kendall, J.S. (2007). *The New Taxonomy of Educational Objectives*. Second Edition. Thousand Oaks, CA: Corwin Press.

P. Morreale, S. & Pearson, J. (2008) "Why communication education is important: The centrality of the discipline in the 21st century." *Communication Education*, 57(2), 224-240.

Q. Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices*. New York, NY: College Entrance Examination Board. (PDF)

R. *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis*. (Achieve).

II. Career Readiness

A. Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts*. Washington, DC: Achieve, Inc. (PDF)

B. ACT. (2007). *Aligning Postsecondary Expectations and High School Practice: The Gap Defined (Policy Implications of the ACT National Curriculum Survey Results 2005-2006)*. Iowa City, IA: ACT. (PDF)

C. ACT. (2006). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT. (PDF)

D. ACT. (2007). *Rigor at Risk: Reaffirming Quality in the High School Core Curriculum*. Iowa City, IA: ACT. (PDF)

E. Casner-Lotto, J., Rosenblum, E., and Wright, M., (2009). *The Ill-Prepared Workforce: Exploring the Challenges of Employer-Provided Workforce Readiness Training*. The Conference Board.

F. Florida American Diploma Project Survey Results. (Achieve).

G. Hawai'i Career Ready Study. (2007). Commissioned by the Hawai'i P-20 Initiative.(PDF)

H. *Missouri Career Prep Certificate Program Planning Guide*, Missouri Department of Elementary and Secondary Education. (PDF)

I. Morreale, S. & Pearson, J. (2008) "Why communication education is important: The centrality of the discipline in the 21st century." *Communication Education*, 57(2), 224-240.

J. National Alliance of Business. (2002).*The American Diploma Project Workplace Study*. Washington, DC.

K. Partnership for 21st Century Skills. (2009). *Framework for 21st Century Learning*. Tucson, AZ.

L. Qualifications and Curriculum Authority. (2007). *Functional Skills and Standards*. (PDF)

M. The Conference Board. (2008). *New Graduates' Workforce*

Readiness.

III. International Documents

A. **Alberta, Canada:** *English Language Arts Curriculum Outcomes*, 2003. (PDF)

B. **British Columbia, Canada:** *English Language Arts Integrated Resource Package, Prescribed Learning Outcomes*, 2007. (PDF)

C. **British Columbia:** English Literature 12, Integrated Resource Package, 2003. (PDF)

D. **England:** *English Programme of Study for Key stage 4*, 2007. (PDF)

E. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003. (PDF)

F. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (PDF)

G. **Hong Kong:** Hong Kong Examinations and Assessment Authority, 2007 HKCEE English Language, Recommended Texts for the School-Based Assessment Component. (PDF)

H. **Ireland:** *Leaving Certificate/English Syllabus for Higher Level and Ordinary Level.* (PDF)

I. **Ireland:** Prescribed Material for English in the Leaving Certificate Examination in 2009. (PDF)

J. **New South Wales:** *English Stage 6 Syllabus, 1999.* (PDF)

K. **New South Wales**: 2009-2012 HSC, Prescribed Area of Study, Electives and Texts. (PDF)

L. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007. (PDF)

M. **Singapore:** *English Language Syllabus 2001.* (PDF)

N. **Singapore:** O-Level Literature in English (Syllabus 2015), Prescribed Texts for 2009. (PDF)

O. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2006. (PDF)

P. **Victoria, Australia:** VCE English/ESL Text List 2008-2009, VCE Literature Text List 2008. (PDF)

Q. Achieve, Inc., National Governors Association, Council of Chief State School Officers. (2008). *Benchmarking for Success: Ensuring U.S. Students receive a World Class Education.* Washington, DC. (PDF)

R. Education Commission of the States. (2008). *From Competing to Leading: An International Benchmarking Blueprint.* Denver, CO. (PDF)

S. Education Commission of the States. (2009). *International Benchmarking Toolkit.* Denver, CO. (PDF)

T. Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills.* Paris, France. (PDF)

U. Organization for Economic Cooperation and Development. (2006). *PISA 2006: Science Competencies for Tomorrow's World, Vol. 1.* [see Chapter 6 for reading assessment results] Paris, France. (PDF)

IV. State and Other Standards Documents

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College and Career Readiness Standards for Mathematics

Draft for Review and Comment

September 21, 2009

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Appendix B2: Draft Standards in ELA and Mathematics

Introduction

The *College and Career Readiness Standards for Mathematics* consist of three interconnected parts: a Standard for Mathematical Practice, ten Standards for Mathematical Content, and a set of Example Tasks.

The Standard for Mathematical Practice has six Core Practices that describe the way proficient students approach mathematics. Proficient students attend to precision, construct viable arguments, make sense of complex problems and persevere in solving them, look for hidden structure, note regularity in repeated reasoning, and use technology intelligently. This approach to mathematics is an essential part of being ready for college and career.

The Standards for Mathematical Content form the backbone of this document. Each of these ten standards consists of Core Concepts, Core Skills, and a description of the student's Coherent Understanding. Students who encounter the subject with a focus on coherence will be better able to learn more mathematics at a deeper level and be better able to access and apply the mathematics they know. The ten Standards for Mathematical Content pull together topics previously studied and look ahead toward topics in further coursework and training programs.

The Standards for Mathematical Content are designed to draw greater attention to powerful organizing principles in mathematics, such as functional relationships or the laws of arithmetic. They also allow important distinctions to be made more clearly, such as that between Expressions and Equations. And they surface the deep connections that often underlie mathematical coherence, such as the blending of algebra with geometry represented by Coordinates. These ten are not categories or buckets of topics to cover; they are standards. They describe the coherence students need and deserve as they go forward to their mathematical futures.

The third component of the *College and Career Readiness Standards for Mathematics* is a Web-based collection of Example Tasks that exemplifies the variety of performances required. High standards demand that students *use* their knowledge, skills and good practices to solve problems from a variety of contexts, both within mathematics and from the world outside. Example Tasks exemplify the range and variety of use that is expected. Teachers and designers of curriculum and assessment will find in the collection of examples a guide to what these standards mean. Over time, the collection of tasks will grow.

Together, these three components establish an evidence-based standard for college and career readiness. The *College and Career Readiness Standards for Mathematics* have been created with attention to the expectations of the highest achieving countries. They have focus and depth, emphasizing the understanding of and connections among topics that are most important for success regardless of a student's pathway after reaching these standards.

A primary goal of developing these standards is to enable students to achieve *mathematical proficiency* (see sidebar). Students are expected to understand the knowledge described in the Core Concepts and in the Coherent Understandings at a depth that enables them to reason with that knowledge—to analyze, interpret and evaluate mathematical problems, make deductions, and justify results. The Core Skills are meant to be used strategically and adaptively to solve problems. Students' knowledge and skills come to life and take their value when melded with the ways they approach mathematics—as described by the Core Practices.

The specific verbs used to describe concepts and skills in these standards are not meant to limit or indicate levels of any taxonomy. Although using verbs to indicate levels of depth has been a common practice in this country's standards writing, high performing nations do not use verbs in this way. They describe depth and practices first in separate sections of their syllabi. We have adopted the high performing countries' practice of focusing on a clear statement of what mathematics should be learned when writing standards for knowledge and skills.

Instruction, curriculum and assessment designed to achieve these standards should range over all strands of proficiency in *Adding It Up*, all depths of knowledge in Norman L. Webb's Depth of Knowledge taxonomy, all levels of Bloom's Taxonomy, and all levels of cognitive demand. In the Core Skills and Core Practices we have sometimes used terms like "explore" to indicate a lighter treatment with a goal of awareness and experience rather than proficiency. We have used Example Tasks to show the depth of knowledge and deployment of skills expected.

From *Adding it up: Helping children learn mathematics* (National Research Council, 2001, p. 116):

Recognizing that no term captures completely all aspects of expertise, competence, knowledge, and facility in mathematics, we have chosen mathematical proficiency to capture what we believe is necessary for anyone to learn mathematics successfully. Mathematical proficiency, as we see it, has five components, or strands:

- conceptual understanding—comprehension of mathematical concepts, operations, and relations
- procedural fluency—skill in carrying out procedures flexibly, accurately, efficiently, and appropriately
- strategic competence—ability to formulate, represent, and solve mathematical problems
- adaptive reasoning—capacity for logical thought, reflection, explanation, and justification
- productive disposition—habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy.

These standards are measurable; that is, they are observable and verifiable through the broad spectrum of student performances that may be assessed during classroom observation, school-based examinations and large-scale testing. The *College and Career Readiness Standards for Mathematics* can guide the development of assessment frameworks that distribute the assessment responsibilities across multiple levels of the educational system: state, district, school and teacher.

Students reaching these levels will be prepared for non-remedial college mathematics courses and will be prepared for training programs for career-level jobs; however, the *College and Career Readiness Standards for Mathematics* should not be construed as grade twelve exit standards. Students interested in STEM fields, and those who wish to go beyond for other reasons, will need to reach these standards before their senior year in order to have time to include additional mathematics. A number of pathways for advanced learning are possible and may be integrated throughout the high school experience and beyond.

Appendix B2: Draft Standards in ELA and Mathematics

The Common Core State Standards Initiative

The *College and Career Readiness Standards for Mathematics* will anchor the next phase of the Common Core State Standards Initiative: development of K–12 Mathematics Standards. Those K–12 Standards are in turn expected to guide the development of a next generation of assessments, developed collaboratively by multiple states. The K–12 Mathematics Standards will serve as a guide and tool for aligning instruction, curriculum, assessment, teacher supports, and systems of accountability. To ensure alignment, the Standard for Mathematical Practice, the Standards for Mathematical Content, and the Example Tasks should all be taken into account.

Overview of the Mathematical Practice Standard

Attend to precision.
Construct viable arguments.
Make sense of complex problems and persevere in solving them.
Look for structure.
Look for and express regularity in repeated reasoning.
Make strategic decisions about the use of technological tools.

Overview of the Mathematical Content Standards

Number. Procedural fluency in operations with real numbers and strategic competence in approximation are grounded in an understanding of place value. The rules of arithmetic govern operations on numbers and extend to operations in algebra.

Quantity. A quantity is an attribute of an object or phenomenon that can be specified using a number and a unit, such as 2.7 centimeters, 42 questions or 28 miles per gallon.

Expressions. Expressions use numbers, variables and operations to describe computations. The rules of arithmetic, the use of parentheses and the conventions about order of operations assure that the computation has a well-determined value.

Equations. An equation is a statement that two expressions are equal. Solutions to an equation are the values of the variables in it that make it true.

Functions. Functions model situations where one quantity determines another. Because nature and society are full of dependencies, functions are important tools in the construction of mathematical models.

Modeling. Modeling uses mathematics to help us make sense of the real world—to understand quantitative relationships, make predictions, and propose solutions.

Shape. From only a few axioms, the deductive method of Euclid generates a rich body of theorems about geometric objects, their attributes and relationships.

Coordinates. Applying a coordinate system to Euclidean space connects algebra and geometry, resulting in powerful methods of analysis and problem solving.

Probability. Probability assesses the likelihood of an event in a situation that involves randomness. It quantifies the degree of certainty that an event will happen as a number from 0 through 1.

Statistics. 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 in the data.

How Evidence Informed Decisions in Drafting the Standards

The Common Core State Standards Initiative builds on a generation of standards efforts led by states and national organizations. On behalf of the states, we have taken a step toward the next generation of standards that are aligned to college- and career-ready expectations and are internationally benchmarked. These standards are grounded in evidence from many sources that shows that the next generation of standards in mathematics must be focused on deeper, more thorough understanding of more fundamental mathematical ideas and higher mastery of these fewer, more useful skills.

The evidence that supports this new direction comes from a variety of sources. International comparisons show that high performing countries focus on fewer topics and that the U.S. curriculum is "a mile wide and an inch deep." Surveys of college faculty show the need to shift away from high school courses that merely survey advanced topics, toward courses that concentrate on developing an understanding and mastery of ideas and skills that are at the core of advanced mathematics. Reviews of data on student performance show the large majority of U.S. students are not mastering the mile wide list of topics that teachers cover.

The evidence tells us that in high performing countries like Singapore, the gap between what is taught and what is learned is relatively smaller than in Malaysia or the U.S. states. Malaysia's standards are higher than Singapore's, but their performance is much lower. One could interpret the narrower gap in Singapore as evidence that they actually use their standards to manage instruction; that is, Singapore's standards were set within the reach of hard work for their system and their population. Singapore's Ministry of Education flags its webpage with the motto, "Teach Less, Learn More." We accepted the challenge of writing standards that could work that way for U.S. teachers and students: By providing focus and coherence, we could enable more learning to take place at all levels.

However, a set of standards cannot be simplistically "derived" from any body of evidence. It is more accurate to say that we used evidence to inform our decisions. A few examples will illustrate how this was done.

For example, systems of linear equations are covered by all states, yet students perform surprisingly poorly on this topic when assessed by ACT. We determined that systems of linear equations have high coherence value, mathematically; that this topic is included by all high performing nations; and that it has moderately high value to college faculty. Result: We included it in our standards.

A different and more complex pattern of evidence appeared with families of functions. Again we found that students performed poorly on problems related to many advanced functions (trigonometric, logarithmic, quadratic, exponential, and so on). Again we found that a number of states cover them, even though college faculty rated them lower in value. High performing countries include this material, but with different degrees of demand. We decided that we had to carve a careful line through these topics so that limited teaching resources could focus where most important. We decided that students should

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develop deep understanding and mastery of linear and exponential functions. They should also have familiarity with other families of functions, and apply their algebraic, modeling and problem solving skills to them—but not develop in-depth technical mastery and understanding. Thus we defined two distinct levels of attention and identified which families of functions got which level of attention.

Why were exponential functions selected for intensive focus in the Functions standard instead of, say, quadratic functions? What tipped the balance was the high coherence value of exponential functions in supporting modeling and their wide utility in work and life. Quadratic functions were also judged to be well supported by expectations defined under Expressions and Equations.

These examples indicate the kind of reasoning, informed by evidence, that it takes to design standards aligned to the demands of college and career readiness in a global economy. We considered inclusion in international standards, requirements of college and the workplace, surveys of college faculty and the business community, and other sources of evidence. As we navigated these sometimes conflicting signals, we always remained aware of the finiteness of instructional resources and the need for deep mathematical coherence in the standards.

At the end of this document, there is a listing of a number of sources that played a role in the deliberations described above and more generally throughout the process to inform our decisions. A hyperlinked version of the bibliography can be found online at www.corestandards.org.

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College and Career Readiness Standards for Mathematics

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Mathematical Practice

Proficient students expect mathematics to make sense. They take an active stance in solving mathematical problems. When faced with a non-routine problem, they have the courage to plunge in and try something, and they have the procedural and conceptual tools to carry through. They are experimenters and inventors, and can adapt known strategies to new problems. They think strategically.

Students who engage in these practices discover ideas and gain insights that spur them to pursue mathematics beyond the classroom walls. They learn that effort counts in mathematical achievement.[a] These are practices that expert mathematical thinkers encourage in apprentices. Encouraging these practices in our students should be as much a goal of the mathematics curriculum as is teaching specific content topics and procedures.[b] Taken together with the Standards for Mathematical Content, they support productive entry into college courses or career pathways.

Core Practices · Students can and do:

1 Attend to precision.

Mathematically proficient students organize their own ideas in a way that can be communicated precisely to others, and they analyze and evaluate others' mathematical thinking and strategies noting the assumptions made. They clarify definitions. They state the meaning of the symbols they choose, are careful about specifying units of measure and labeling axes, and express their answers with an appropriate degree of precision. Rather than saying, "let v be speed and let t be time," they would say "let v be the speed in meters per second and let t be the elapsed time in seconds from a given starting time." They recognize that when someone says the population of the United States in June 2008 was 304,059,724, the last few digits indicate unwarranted precision.

2 Construct viable arguments.

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 break things down into cases and can recognize and use counterexamples. They use logic to 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.

3 Make sense of complex 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 consider analogous problems, try special cases and work on simpler forms. They evaluate their progress and change course if necessary. They try putting algebraic expressions into different forms or try changing the viewing window on their calculator to get the information they need. They look for correspondences between equations, verbal descriptions, tables, and graphs. They draw diagrams of relationships, graph data, search for regularity and trends, and construct mathematical models. They check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?"

4 Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern. For example, in $x^2 + 5x + 6$ they can see the 5 as $2 + 3$ and the 6 as 2×3. They recognize the significance of an existing line in a geometric figure and can add an auxiliary line to make the solution of a problem clear. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects. For example, by seeing $5 - 3(x - y)^2$ as 5 minus a positive number times a square, they see that it cannot be more than 5 for any real numbers x and y.[b]

5 Look for and express regularity in repeated reasoning.

Mathematically proficient students pay attention to repeated calculations as they carry them out, and look both for general algorithms and for shortcuts. For example, by paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, they might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel in the expansions of $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ leads to the general formula for the sum of a geometric series. As they work through the solution to a problem, proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.[b]

6 Make strategic decisions about the use of technological tools.

Mathematically proficient students consider the available tools when solving a mathematical problem, whether pencil and paper, ruler, protractor, graphing calculator, spreadsheet, computer algebra system, statistical package, or dynamic geometry software. They are familiar enough with all of these tools to make sound decisions about when each might be helpful. They use mathematical understanding and estimation strategically, attending to levels of precision, to ensure appropriate levels of approximation and to detect possible errors. They are able to use these tools to explore and deepen their understanding of concepts.

(a) For the importance of students' beliefs about effort, see the National Mathematics Advisory Panel's Report of the Task Group on Learning Processes, p. 4-10 (2008). (b) Cuoco, A., Goldenberg, E. P., and Mark, J., *Journal of Mathematical Behavior*, 15 (4), 375-402, 1996; *Focus in High School Mathematics*. Reston, VA: NCTM, in press; Harel, G., What is Mathematics? A Pedagogical Answer to a Philosophical Question. In R. B. Gold & R. Simons (Eds.), *Current Issues in the Philosophy of Mathematics From the Perspective of Mathematicians*, Mathematical Association of America, 2008.

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Number

Core Concepts · Students understand that:

A The real numbers include the rational numbers and are in one-to-one correspondence with the points on the number line.

B Quantities can be compared using division, yielding rates and ratios.

C A fraction can represent the result of dividing the numerator by the denominator; equivalent fractions have the same value.

D Place value and the rules of arithmetic form the foundation for efficient algorithms.

A Coherent Understanding of Number. Procedural fluency in operations with real numbers and strategic competence in approximation are grounded in an understanding of place value. The rules of arithmetic govern operations on numbers and extend to operations in algebra:

- Numbers can be added in any order with any grouping and multiplied in any order with any grouping.
- Adding 0 and multiplying by 1 both leave a number unchanged.
- All numbers have additive inverses, and all numbers except zero have multiplicative inverses.
- Multiplication distributes over addition.

Subtraction and division are defined in terms of addition and multiplication, so are also governed by these rules.

The place value system bundles units into 10s, then 10s into 100s, and so on, providing an efficient way to name large numbers. Subdividing in a similar way extends this to the decimal system, which provides an address system for locating all real numbers on the number line with arbitrarily high accuracy. Place value is the basis for efficient algorithms, reducing much computation to single-digit arithmetic. Mental computation strategies also make opportunistic use of the rules of arithmetic, as when the product $5 \times 177 \times 2$ is computed at a glance to obtain 1770, rather than methodically working from left to right.

An estimate may be more appropriate than an exact value, for example, when you want to know the number of calories in a meal. Often a result is reported using fewer digits than were calculated. A mature number sense includes having rules of thumb about how much accuracy is appropriate and understanding that accuracy to more than a few decimal places often takes substantial effort. Estimation and approximation are also useful in checking calculations.

Rational numbers represented as fractions can be located on the number line by seeing them as numbers expressed in different units; for example, 3/5 is 3 units, where each unit is 1/5. However, rational numbers do not fill out the number line. There are also irrational numbers, such as π or $\sqrt{2}$. Each point on the number line then corresponds to a real number that is either rational or irrational.

Connections to Expressions, Functions and Coordinates. The rules of arithmetic govern the manipulations of expressions and functions. Two perpendicular number lines define the coordinate plane.

Core Skills · Students can and do:

1 Compare numbers and make sense of their magnitude.

Include positive and negative numbers expressed as fractions, decimals, powers, and roots. Limit to square and cube roots. Include very large and very small numbers and the use of scientific notation.

2 Know when and how to use standard algorithms, and perform them flexibly, accurately and efficiently.*

3 Use mental strategies and technology to formulate, represent and solve problems.**

4 Solve multi-step problems involving fractions and percentages.

Include situations such as simple interest, tax, markups/markdowns, gratuities and commissions, fees, percent increase or decrease, percent error, expressing rent as a percentage of take-home pay, and so on.

5 Use estimation and approximation to solve problems.

Include evaluating answers for their reasonableness, detecting errors, and giving answers to an appropriate level of precision.

* This aligns with the concept of procedural fluency as in the National Research Council report *Adding it up: Helping children learn mathematics*. Specifically, "*Procedural fluency* refers to knowledge of procedures, knowledge of when and how to use them appropriately, and skill in performing them flexibly, accurately, and efficiently" (p. 121).

** This aligns with the concept of strategic competence as described in *Adding it up*: "*Strategic competence* refers to the ability to formulate mathematical problems, represent them, and solve them" (p. 124).

Appendix B2: Draft Standards in ELA and Mathematics

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Quantity

Core Concepts · Students understand that:

A The value of a quantity is not specified unless the units are named or understood from the context.

B Quantities can be added and subtracted only when they are of the same type (length, area, speed, etc.).

C Quantities can be multiplied or divided to create new types of quantities, called derived quantities.

A Coherent Understanding of Quantity. A quantity is an attribute of an object or phenomenon that can be specified using a number and a unit, such as 2.7 centimeters, 42 questions or 28 miles per gallon.

The length of a football field and the speed of light are both quantities. If we choose units of miles per second, then the speed of light has a value of approximately 186,000 miles per second. But the speed of light need not be expressed in miles per second; it may be approximated by 3×10^8 meters per second or in any other unit of speed. Bare numerical values such as 186,000 do not describe quantities unless they are paired with units.

Speed (distance divided by time), rectangular area (length multiplied by length), density (mass divided by volume), and population density (number of people divided by land area) are examples of derived quantities, obtained by multiplying or dividing quantities.

It can make sense to add two quantities, such as when a child 51 inches tall grows 3 inches to become 54 inches tall. To be added or subtracted, quantities must be of the same type (length, area, speed, etc.); to add or subtract their values, the quantities must be expressed in the same units. Converting quantities to have the same units is like converting fractions to have a common denominator before adding or subtracting. But, even when quantities have the same units it does not always make sense to add them. For example, if a wooded park with 300 trees per acre is next to a field with 30 trees per acre, they do not have 330 trees per acre.

Doing algebra with units in a calculation reveals the units of the answer, and can help reveal a mistake if, for example, the answer comes out to be a distance when it should be a speed.

Connections to Number, Expressions, Equations, Functions, Modeling and Statistics. Operations described under Number and Expressions govern the operations one performs on quantities, including the units involved. Quantity is an integral part of any application of mathematics, and has connections to solving problems using data, equations, functions and modeling.

Core Skills · Students can and do:

1 Know when and how to convert units in computations.

Include the addition and subtraction of quantities of the same type expressed in different units; averaging data given in mixed units; converting units for derived quantities such as density and speed.

2 Use and interpret quantities and units correctly in algebraic formulas.

Include specifying units when defining variables and attending to units when writing expressions and equations.

3 Use and interpret quantities and units correctly in graphs and data displays.

Include function graphs, data tables, scatterplots and other visual displays of dimensioned data.

4 Use units as a way to understand problems and to guide the solution of multi-step problems.

Include examples such as acceleration; currency conversions; people-hours; social science measures, such as deaths per 100,000; and general rates, such as points per game.

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Expressions

Core Concepts · Students understand that:

A Expressions are constructions built up from numbers, variables, and operations, which have a numerical value when each variable is replaced with a number.

B Complex expressions are made up of simpler expressions.

C The rules of arithmetic can be applied to transform an expression without changing its value.

D Rewriting expressions in equivalent forms serves a purpose in solving problems.

A Coherent Understanding of Expressions. Expressions use numbers, variables and operations to describe computations. The rules of arithmetic, the use of parentheses and the conventions about order of operations assure that the computation has a well-determined value.

Reading an expression with comprehension involves analysis of its underlying structure, which may suggest a different but equivalent way of writing it 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. But rewriting $p + 0.05p$ as $1.05p$ shows that adding a tax is the same as multiplying by a constant factor.

Algebraic manipulations are based on the conventions of algebraic notation and the rules of arithmetic. Heuristic mnemonic devices are not a substitute for procedural fluency. For example, factoring, expanding, collecting like terms, the rules for interpreting minus signs next to parenthetical sums, and adding fractions with a common denominator are all instances of the distributive law; the definitions for negative and rational exponents are based on the extension of the exponent laws for positive integers. The laws of exponents connect multiplication of numbers to addition of exponents and thus express the deep relationship between addition and multiplication captured by the parallel nature of the rules of arithmetic for these operations.

Complex expressions are made up of simpler expressions using arithmetic operations and substitution. When simple expressions within more complex expressions are treated as single quantities, or chunks, the underlying structure of the larger expression may be more evident.

Connections to Equations and Functions. Setting expressions equal to each other leads to equations. Expressions can define functions of the variables that appear in them, with equivalent expressions defining the same function.

Core Skills · Students can and do:

1 See structure in expressions.

For example, recognize: that the expressions $x^4 - y^4$ and $(x+y)^2 - (x-y)^2$ are differences of squares; that there are different ways to rewrite the latter expression, e.g., by expanding and collecting like terms or by factoring as a difference of squares; that p is a common factor in $p + 0.025p$; that an expression in the form $(x-3)^2 + 14$ reveals its minimum value.

2 Manipulate simple expressions.

Show procedural fluency in the following cases: factoring out common terms; factoring expressions with quadratic structure; writing in standard form sums, differences, and products of polynomials. Include completing the square and rewriting in standard form sums, differences, products, and quotients of simple rational expressions; rewriting expressions with negative exponents and those involving square or cube roots of a single term involving exponents.

3 Define variables and write an expression to represent a quantity in a problem.

Include contextual problems.

4 Interpret an expression that represents a quantity in terms of the context.

Include interpreting parts of an expression, such as terms, factors and coefficients.

Appendix B2: Draft Standards in ELA and Mathematics

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Equations

Core Concepts · Students understand that:

A An equation is a statement that two expressions are equal.

B The solutions of an equation are the values of the variables that make the resulting numerical statement true.

C The steps in solving an equation are guided by understanding and justified by logical reasoning.

D Equations not solvable in one number system may have solutions in a larger number system.

A Coherent Understanding of Equations. An equation is a statement that two expressions are equal. Solutions to an equation are the values of the variables in it that make it true. If the equation is true for all values of the variables, then we call it an identity; identities are often discovered by manipulating one expression into another.

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, which can be graphed in the plane. Equations can be combined into systems to be solved simultaneously.

An equation can be solved by successively transforming it into one or more simpler equations. The process is governed by deductions based on the properties of equality. 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, stimulating the formation of expanded number systems (integers, rational numbers, real numbers and complex numbers).

A formula is a type of equation. The same solution techniques used to solve equations can be used to rearrange formulas. For example, the formula for the area of a trapezoid, $A = \left(\frac{b_1+b_2}{2}\right)h$, can be solved for h using the same deductive process.

Inequalities can be solved in much the same way as equations. Many, but not all, of the properties of equality extend to the solution of inequalities.

Connections to Functions, Coordinates, and Modeling. Equations in two variables may define functions. Asking when two functions have the same value leads to an equation; graphing the two functions allows for the approximate solution of the equation. Equations of lines involve coordinates, and converting verbal descriptions to equations is an essential skill in modeling.

Core Skills · Students can and do:

1 Understand a problem and formulate an equation to solve it.

Extend to inequalities and systems.

2 Solve equations in one variable using manipulations guided by the rules of arithmetic and the properties of equality.

Solve linear equations with procedural fluency. For quadratic equations, include solution by inspection, by factoring, or by using the quadratic formula. Understand that the quadratic formula comes from completing the square. Include simple absolute value equations solvable by direct inspection and by understanding the interpretation of absolute value as distance.

3 Rearrange formulas to isolate a quantity of interest.

Exclude cases that require extraction of roots or inverse functions.

4 Solve systems of equations.

Focus on pairs of simultaneous linear equations in two variables. Include algebraic techniques, graphical techniques and solving by inspection.

5 Solve linear inequalities in one variable and graph the solution set on a number line.

Emphasize solving the associated equality and determining on which side of the solution of the associated equation the solutions to the inequality lie.

6 Graph the solution set of a linear inequality in two variables on the coordinate plane.

Emphasize graphing the associated equation, using a dashed or solid line as appropriate and shading to indicate the half-plane on which the solutions to the inequality lie.

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Functions

Core Concepts · Students understand that:

A A function is a rule, often defined by an expression, that assigns a unique output for every input.

B The graph of a function f is a set of ordered pairs $(x, f(x))$ in the coordinate plane.

C Functions model situations where one quantity determines another.

D Common functions occur in families where each member describes a similar type of dependence.

A Coherent Understanding of Functions. Functions model 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 nature and society are full of dependencies between quantities, 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 plane to fly 1000 miles is a function of the plane's average ground speed in miles per hour, v; the rule $T(v) = 1000/v$ expresses this relationship algebraically and defines a function whose name is T.

The set of possible 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. The graph of a function is a useful way of visualizing the relationship the function models, and manipulating the expression for a function can throw light on the function's properties.

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 an initial value of zero describe proportional relationships.

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. The graph of a function f is the same as the solution set of the equation $y = f(x)$. Questions about when two functions have the same value lead to equations, whose solutions can be visualized from the intersection of the graphs. Since functions describe relationships between quantities, they are frequently used in modeling. Sometimes functions are defined by a recursive process, which can be modeled effectively using a spreadsheet or other technology.

Core Skills · Students can and do:

1 Recognize proportional relationships and solve problems involving rates and ratios.

Include being able to express proportional relationships as functions.

2 Describe the qualitative behavior of common types of functions using graphs and tables.

Identify: intercepts; intervals where the function is increasing, decreasing, positive or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. Use technology to explore the effects of parameter changes on the graphs of linear, power, quadratic, polynomial, simple rational, exponential, logarithmic, sine and cosine, absolute value and step functions.

3 Analyze functions using symbolic manipulation.

Include slope-intercept and point-slope form of linear functions; vertex form of quadratic functions to identify symmetry and find maximums and minimums; factored form to find zeros. Use manipulations as described under Expressions.

4 Use the families of linear and exponential functions to solve problems.

For linear functions $f(x) = mx + b$, understand b as the intercept or initial value and m as the slope or rate of change. For exponential functions $f(x) = a \cdot b^x$, understand a as the intercept or initial value and b as the growth factor.

5 Find and interpret rates of change.

Compute the rate of change of linear functions and make qualitative observations about how the rate of change varies for nonlinear functions.

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Modeling

Core Concepts · Students understand that:

A Mathematical models involve choices and assumptions that abstract key features from situations to help us solve problems.

B Even very simple models can be useful.

A Coherent Understanding of Modeling. Modeling uses mathematics to help us make sense of the real world—to understand quantitative relationships, make predictions, and propose solutions.

A model can be very simple, such as a geometric shape to describe a physical object like a coin. Even so simple a model involves making choices. It is up to us whether to model the solid nature of the coin with a three-dimensional cylinder, or whether a two-dimensional disk works well enough for our purposes. For some purposes, we might even choose to adjust the right circular cylinder to model more closely the way the coin deviates from the cylinder.

In any given situation, the model we devise depends 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 we can create and analyze is constrained as well by the limitations of our mathematical and technical skills. For example, modeling a physical object, a delivery route, a production schedule, or a comparison of loan amortizations each requires different sets of tools. Networks, spreadsheets 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 structure might model seemingly different situations.

The basic modeling cycle is one of (1) identifying the key features of a situation, (2) creating geometric, algebraic or statistical objects that describe key features of the situation, (3) analyzing and performing operations on these objects to draw conclusions and (4) interpreting the results of the mathematics in terms of the original situation. Choices and assumptions are present throughout this cycle.

Connections to Quantity, Equations, Functions, Shape, Coordinates and Statistics. Modeling makes use of shape, data, graphs, equations and functions to represent real-world quantities and situations.

Core Skills · Students can and do:

1 Model numerical situations.

Include readily applying the four basic operations in combination to solve multi-step quantitative problems with dimensioned quantities; making estimates to introduce numbers into a situation and get problems started; recognizing proportional or near-proportional relationships and analyzing them using characteristic rates and ratios.

2 Model physical objects with geometric shapes.

Include common objects that can reasonably be idealized as two- and three-dimensional geometric shapes. Identify the ways in which the actual shape varies from the idealized geometric model.

3 Model situations with equations and inequalities.

Include situations well described by a linear inequality in two variables or a system of linear inequalities defining a region in the plane.

4 Model situations with common functions.

Include situations well described by linear, quadratic or exponential functions; and situations that can be well described by inverse variation ($f(x) = k/x$). Include identifying a family of functions that models features of a problem, and identifying a particular function of that family and adjusting it to fit by changing parameters. Understand the recursive nature of situations modeled by linear and exponential functions.

5 Model situations using probability and statistics.

Include using simulations to model probabilistic situations; describing the shape of a distribution of values and summarizing a distribution with measures of center and variability; modeling a bivariate relationship using a trend line or a regression line.

6 Interpret the results of applying a model and compare models for a particular situation.

Include realizing that models seldom fit exactly and so there can be error; identifying simple sources of error and being careful not to over-interpret models. Include recognizing that there can be many models that relate to a situation, that they can capture different aspects of the situation, that they can be simpler or more complex, and that they can have a better or worse fit to the situation and the questions being asked.

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Shape

Core Concepts · Students understand that:

A Shapes and their parts, attributes, and measurements can be analyzed deductively.*

B Congruence, similarity, and symmetry can be analyzed using transformations.

C Mathematical shapes model the physical world, resulting in practical applications of geometry.

D Right triangles and the Pythagorean theorem are central to geometry and its applications, including trigonometry.

A Coherent Understanding of Shape. From only a few axioms, the deductive method of Euclid generates a rich body of theorems about geometric objects, their attributes and relationships. Once understood, those attributes and relationships can be applied in diverse practical situations—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.

Understanding the attributes of geometric objects often relies on measurement: a circle is a set of points in a plane at a fixed distance from a point; a cube is bounded by six squares of equal area; when two parallel lines are crossed by a transversal, pairs of corresponding angles are congruent.

The concepts of congruence, similarity and symmetry can be united under the concept of geometric transformation. 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. Applying a scale transformation to a geometric figure yields a similar figure. The transformation preserves angle measure, and lengths are related by a constant of proportionality. If the constant of proportionality is one, distances are also preserved (so the transformation is a rigid transformation) and the figures are congruent.

The definitions of sine, cosine and tangent for acute angles are founded on right triangle similarity, and, with the Pythagorean theorem, are fundamental in many practical and theoretical situations.

Connections to Coordinates, Functions and Modeling. The Pythagorean theorem is a key link between geometry, measurement and distance in the coordinate plane. Parameter changes in families of functions can be interpreted as transformations applied to their graphs and those functions, as well as geometric objects in their own right, can be used to model contextual situations.

*In this document, deductive analysis aligns with the notion of adaptive reasoning as defined in *Adding it Up*, and includes empirical exploration, informal justification, and formal proof.

Core Skills · Students can and do:

1 Use multiple geometric properties to solve problems involving geometric figures.

Properties include: measures of interior angles of a triangle sum to 180°; vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; measures of supplementary angles sum to 180°; two lines parallel to a third are parallel to each other; points on a perpendicular bisector of a segment are exactly those equidistant from the segment's endpoints; and a line tangent to a circle is perpendicular to the radius meeting it.

2 Prove theorems, test conjectures and identify logical errors.

Include theorems establishing the properties in Core Skill 1 and other theorems about angles, parallel and perpendicular lines, similarity and congruence of triangles.

3 Construct and interpret representations of geometric objects.

Include classical construction techniques and construction techniques supported by modern technologies. Include moving between two-dimensional representations and the three-dimensional objects they represent, such as in schematics, assembly instructions, perspective drawings and multiple views.

4 Solve problems involving measurements.

Include measurement (length, angle measure, area, surface area, and volume) of a variety of figures and shapes in two- and three-dimensions. Compute measurements using formulas and by decomposing complex shapes into simpler ones.

5 Solve problems involving similar triangles and scale drawings.

Include computing actual lengths, areas and volumes from a scale drawing and reproducing a scale drawing at a different scale.

6 Apply properties of right triangles and right triangle trigonometry to solve problems.

Include using the Pythagorean theorem and properties of special right triangles, and applying sine, cosine and tangent to determine lengths and angle measures of right triangles. Use right triangles and their properties to solve real-world problems. Limit angle measures to degrees.

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Coordinates

Core Concepts · Students understand that:

A Locations in the plane or in space can be specified by pairs or triples of numbers called coordinates.

B Coordinates link algebra with geometry and allow methods in one domain to solve problems in the other.

C The set of solutions to an equation in two variables forms a curve in the coordinate plane—such as a line, parabola, circle—and the solutions to systems of equations correspond to intersections of these curves.

A Coherent Understanding of Coordinates. Applying a coordinate system to Euclidean space 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.

Coordinate geometry is a rich field for exploration. How does a geometric transformation such as a translation or reflection affect the coordinates of points? How is the geometric definition of a circle reflected in its equation?

Adding a third perpendicular axis associates three numbers with locations in three dimensions and extends the use of algebraic techniques to problems involving the three-dimensional world we live in.

Connections to Shape, Quantity, Equations and Functions. Coordinates can be used to reason about shapes. In applications, coordinate values often have units (such as meters and bushels). A one-variable equation of the form $f(x) = g(x)$ may be solved in the coordinate plane by finding intersections of the curves $y = f(x)$ and $y = g(x)$.

Core Skills · Students can and do:

1 Translate fluently between lines in the coordinate plane and their equations.

Include predicting visual features of lines by inspection of their equations, determining the equation of the line through two given points, and determining the equation of the line with a given slope passing through a given point.

2 Identify the correspondence between parameters in common families of equations and the location and appearance of their graphs.

Include common families of equations—the graphs of $Ax + By = C$, $y = mx + b$ and $x = a$ are straight lines; the graphs of $y = a(x - h)^2 + k$ and $y = Ax^2 + Bx + C$ are parabolas; and the graph of $(x - h)^2 + (y - k)^2 = r^2$ is a circle.

3 Use coordinates to solve geometric problems.

Include proving simple theorems algebraically, using coordinates to compute perimeters and areas for triangles and rectangles, finding midpoints of line segments, finding distances between pairs of points and determining when two lines are parallel or perpendicular.

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Probability

Core Concepts · Students understand that:

A Probability models outcomes for situations in which there is inherent randomness, quantifying the degree of uncertainty in terms of relative frequency of occurrence.

B The law of large numbers provides the basis for estimating certain probabilities by use of empirical relative frequencies.

C The laws of probability govern the calculation of probabilities of combined events.

D Interpreting probabilities contextually is essential to rational decision-making in situations involving randomness.

A Coherent Understanding of Probability. Probability assesses the likelihood of an event in a situation that involves randomness. It quantifies the degree of certainty that an event will happen as a number from 0 through 1. This number is generally interpreted as the relative frequency of occurrence of the event over the long run.

The structure of a probability model begins by listing or describing the possible outcomes for a random situation (the sample space) and assigning probabilities based on an assumption about long-run relative frequency. In situations such as flipping a coin, rolling a number cube, or drawing a card, it is reasonable to assume various outcomes are equally likely.

Compound events constructed from these simple ones can be represented by tree diagrams and by frequency or relative frequency tables. The probabilities of compound events can be computed using these representations and by applying the additive and multiplicative laws of probability. Interpreting these probabilities relies on an understanding of independence and conditional probability, approachable through the analysis of two-way tables.

Converting a verbally-stated problem into the symbols and relations of probability requires careful attention to words such as *and*, *or*, *if*, and *all*, and to grammatical constructions that reflect logical connections. This is especially true when applying probability models to real-world problems, where simplifying assumptions are also usually necessary in order to gain at least an approximate solution.

Connections to Statistics and Expressions. Probability is the foundation for drawing valid conclusions from sampling or experimental data. Counting has an advanced connection with Expressions through Pascal's triangle and binomial expansions.

Core Skills · Students can and do:

1 Compute theoretical probabilities by systematically counting points in the sample space.

Make use of symmetry and equally likely outcomes. Include permutation and combination problems as long as small numbers are involved or technology is used, so that formulas are not required.

2 Interpret probabilities of compound events using concepts of independence and conditional probability.

Include reading conditional probabilities from two-way tables.

3 Compute probabilities of compound events.

Make use of the additive and multiplicative laws of probability, tree diagrams and frequency or relative frequency tables in real contexts. Do not emphasize fluency with the related formulas

4 Estimate probabilities empirically.

Include using data from simulations carried out with technology to estimate probabilities.

5 Identify and explain common misconceptions regarding probability.

Include misconceptions about long-run versus short-run behavior of relative frequencies (the law of large numbers). Include attention to the use and misuse of probability in the media, especially in terms of interpreting charts and tables and in the contextual meaning of terms connected to probability, such as 'odds' or 'risk.'

6 Adapt probability models to solve real-world problems.

Include the use of conditional probability to assess subsets of data (e.g., what does the data say about males and females separately). Include the use of independence as a simplifying assumption (e.g., find the probability that two students both contract the disease this year).

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Statistics

Core Concepts · Students understand that:

A Statistical methods take variability into account to support making informed decisions based on quantitative studies designed to answer specific questions.

B Visual displays and summary statistics condense the information in data sets into usable knowledge.

C Randomness is the foundation for using statistics to draw conclusions when testing a claim or estimating plausible values for a population characteristic.

D The design of an experiment or sample survey is of critical importance to analyzing the data and drawing conclusions.

A Coherent Understanding of Statistics. 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 in the data. Statistics provides tools for describing variability in data and for making informed decisions that take variability into account.

Data are gathered, displayed, summarized, examined and interpreted to discover patterns. Data can be summarized by a statistic measuring center, such as mean or median, and a statistic measuring spread, such as interquartile range or standard deviation. Different distributions can be compared numerically using these statistics or visually using plots. Which statistics to compare, 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 and this can be evaluated only under the condition of randomness.

In critically reviewing uses of statistics in public media and other reports, it is important to consider the study design, how the data were collected, and the analyses employed as well as the data summaries and the conclusions drawn.

Connections to Probability, Functions and Modeling. Valid conclusions about a population depend on designed simulations or other statistical studies using random sampling or assignment and rely on probability for their interpretation. Functional models may be used to approximate data. If the data are approximately linear, the relationship may be modeled with a trend line and the strength and direction of such a relationship may be expressed through a correlation coefficient. Technology facilitates the study of statistics by making it possible to simulate many possible outcomes in a short amount of time, and by generating plots, function models, trend lines and correlation coefficients.

Core Skills · Students can and do:

1 Formulate questions that can be addressed with data. Identify the relevant data, collect and organize it to respond to the question.

Include determining whether a question can best be addressed through a sample survey, randomized experiment or observational study. Include unbiased selection for a sample and randomization of assignment to treatment for an experiment.

2 Use appropriate displays and summary statistics for data.

Include univariate, bivariate, categorical and quantitative data. Include the thoughtful selection of displays and measures of center and spread to summarize data.

3 Interpret data displays and summaries critically; draw conclusions and develop recommendations.

Include paying attention to the context of the data, interpolating or extrapolating judiciously, and examining the effects of extreme values of the data on summary statistics of center and spread. Include data sets that follow a normal distribution. Include observing and interpreting linear trends in bivariate quantitative data.

4 Draw statistical conclusions involving population means or proportions using sample data.

Conclusions should be based on simulations or other informal techniques, rather than formulas.

5 Evaluate reports based on data.

Include looking for bias or flaws in the way the data were gathered or presented, as well as unwarranted conclusions, such as claims that confuse correlation with causation.

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Appendix B2: Draft Standards in ELA and Mathematics

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English Language Arts

K–12

Appendix B2: Draft Standards in ELA and Mathematics

Introduction

The *Standards for English Language Arts K–12* are the culmination of an extended, broad-based effort to fulfill the charge issued by the states to create the next generation of English language arts (ELA) standards. Its companion document, *Standards for Literacy in History and Science 6–12*, extends the same principle to communication skills in other content areas. 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 upon the most important international models as well as research and input from numerous sources, including scholars, assessment developers, professional organizations, and educators from kindergarten through college. In their design and content, 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 to be included in the document only when the best available evidence indicated that its mastery was essential for students to be college and career ready in a twenty-first-century, globally competitive society. 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, and speaking and listening as well as in mathematics. The CCR Reading, Writing, and Speaking and Listening Standards, released in draft form in September 2009, served as a touchstone for the present work. While the format, structure, content, and purpose of that earlier document differ in some ways from this document, the basic aims and concepts are clearly connected. The main difference is that while the earlier CCR document defined a goal toward which education efforts should aim—college and career readiness for all students—the current document describes the progressive development of skills and understandings across the grades necessary for all students to reach that goal. Just as feedback on the September 2009 CCR draft has greatly influenced the design and development of the K–12 standards, so too will the response to the K–12 standards help guide subsequent revisions to the CCR standards. In their final forms, both documents—CCR and K–12—will be tightly aligned and mutually supporting.

While the *Standards* treat college and career readiness for all students as the end point—an ambitious goal in its own right—many students will reach this point before the end of high school. For them, advanced work in literature, composition, language, history, science, and so on should be available. It is beyond the scope of the *Standards* to describe what such advanced work should consist of, but it needs to provide the next logical step up from the college and career readiness baseline established here.

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 must demonstrate have broad applicability outside of the classroom or workplace. The *Standards* insist upon the sort of close, attentive reading that is at the heart of understanding and appreciating the aesthetics of literature. They require the sort of critical reading that is necessary to sift carefully through the staggering amount of information available today in print and online. They demand the sort of wide, deep, and thoughtful engagement with high-quality literary and informational text that builds knowledge, enlarges experience, and broadens world views. They mandate the sort of cogent reasoning and use of evidence that is essential to both private deliberation and responsible citizenship in a democratic republic. In short, they promote the development of skills in reading, writing, speaking, and listening that are the foundation for any creative and purposeful expression in language.

Key design considerations

A blend of cross-cutting and specific standards

The Reading, Writing, and Speaking and Listening strands include two levels of standards. The cross-cutting Core Standards are the same across the two *Standards* documents, their commonality emphasizing the broad responsibility within the school for meeting the standards and also facilitating schoolwide professional development. Then there are specific Standards that are unique to a given content area, which respects the particular demands of reading, writing, speaking, and listening in ELA and in other disciplines.

A focus on results rather than means

The *Standards* define what all students must learn, not everything that teachers are allowed to teach. By focusing on 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. The *Standards* require, for example, that all students be able to produce writing in a variety of situations, including those that allow time for revision. The *Standards* do not, however, specify a particular writing process that students must use (although certain elements common to process-writing approaches, particularly revision, are embedded in the requirements). Teachers are thus freed—and obligated—to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for those assignments that allow for multiple drafts. Similarly, the *Standards*, with their emphasis on observable outcomes, do not enumerate various metacognitive strategies that students may need to use to monitor and direct their thinking and learning.

Shared responsibility for literacy

The *Standards for English Language Arts K–12* and the *Standards for Literacy in History and Science 6–12* together establish the requirement that instruction in reading, writing, speaking, listening, and language use be a shared responsibility. The *Standards* present reading instruction in K–5 as fully integrative, including a rich blend of narratives, drama, poetry, and informational text. ELA-specific instruction in grades 6 and above includes fiction, poetry, and drama but also a particular form of informational text: literary exposition and argument (e.g., speeches, essays, and historical documents with significant cultural importance and literary merit). Teachers in other content areas must use their unique disciplinary expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language use in their respective field. Progress toward college and career readiness and building a rich knowledge base require that at least half of the reading students do must focus on history, science and related disciplines. This distributed approach honors the unique place of English language arts instruction in literacy development while ensuring that students have communication skills tailored to the demands of other disciplines. It also reflects the reality that students must communicate effectively in a wide range of disciplines, not just ELA.

Grade bands to describe growth, grades to focus instruction

Evidence consulted in creating the *Standards* suggests that beyond the earliest grades, major developments in students' literacy skills typically occur across spans of grades rather than within individual grades. This document stays true to that evidence by organizing standards after grade 3 into multiyear bands (grades 4–5, 6–8, 9–10, and 11–CCR). At the same time, the work of educating students does proceed on a day-to-day, year-to-year basis. Any standards document must therefore provide guidance to educators on what each year's instruction and assessment should look like. To make the grade specific focuses for instruction clear, after the descriptions of the standards in each area of ELA, we provide a one page summary of the grade specific focuses for each grade from fourth grade onwards, including how the grade specific focus in each area relates to the grade band requirements. The Standards offer that focus through several grade-specific elements:

- Single-grade standards in many areas of kindergarten and grades 1, 2, and 3
- Text complexity expectations in Reading, beginning at grade 2
- Areas of focus in Writing, beginning at grade 4

- Areas of focus in the Conventions section of Language Development, beginning at grade 4

Research and media skills integrated into the standards as a whole

To be ready to meet the challenges of the twenty-first century, students need a mix of the communication skills that have served literate people for millennia and new competencies necessary in an information- and media-saturated world. To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, report on, and create a high volume and extensive range of print and nonprint texts in media forms old and new. Just as the need to research and to consume and produce media are embedded into every element of today's curriculum, so too are the associated skills and understandings embedded throughout the *Standards* rather than treated separately. Web links to sample media texts are included selectively among the reading text exemplars in Appendix B to reinforce the point that print and online materials can be used together instructionally to enhance students' understanding.

An integrated model of English language arts

Although the *Standards* divide the English language arts into Reading, Writing, Speaking and Listening, and Language Development strands for conceptual purposes, the processes of communication are in theory and practice an undivided whole. As illustrated in the graphic that introduces each grade or grade band and as embodied in the content of the standards themselves, reading, writing, speaking, listening, and language development are tightly interrelated and often reciprocal.

Central features of the document

Reading and Literature: Text complexity and the growth of comprehension

As students advance through the grades, they must be able to handle independently texts of steadily increasing complexity and be able to gain more from what they read. Beginning formally at grade 2, the *Standards* specify what proportion of texts students read should be within grade band and, at some grades, above grade band. (Additional material in Appendix A of the *Standards* defines and explains text complexity in more detail.) Whatever texts they are reading, students must also show a steadily increasing ability to discern more from and make fuller use of text. This means, for example, finding and 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. The *Standards* place growing demands on students' comprehension at each higher grade or grade band to ensure that all students are college- and career-ready readers no later than the end of high school.

Writing and Research: Text types, grade-level focuses, and research

While some writing skills, such as the ability to reflect audience, purpose, and task in what one writes, are important for many types of writing, others are more properly part of writing in specific text types: narrative, informative and explanatory text, and argument. Beginning at grade 4, the *Standards* specify the sorts of writing over extended and shorter timeframes that students in each grade must be able to produce in response to sources. Although conducting research calls upon reading, speaking, listening, and language skills, writing is typically central to analyzing information and presenting findings. The *Standards* pair writing and research to signal that close connection.

Speaking and Listening: Flexible communication

Including but not limited to skills necessary for formal presentations, the Speaking and Listening strand requires students to develop a range of broadly useful oral communication and interpersonal skills: listening attentively, participating productively, exchanging information, and speaking effectively. Students must learn to sift through and evaluate multiple points of view; listen thoughtfully in order to build on and constructively question the ideas of others while contributing their own ideas; and, where appropriate, reach agreement and common goals through teamwork.

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Appendix B2: Draft Standards in ELA and Mathematics

Language Development: Conventions and vocabulary

The Conventions standards in the Language Development strand 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. Thus, standards pertaining to grammar and usage, mechanics, and the fundamentals of language and writing are accompanied by standards on word choice and style. The Vocabulary standards focus both on understanding words and their nuances and on acquiring new words through conversation and reading and by being taught them directly. Rather than require that students use one particular skill or another to determine a word's meaning, the Vocabulary standards insist only that students get the proper meaning, with the means (context, word analysis, and so on) to be chosen flexibly based on the situation.

Appendices

The *Standards* include a range of supporting materials that help explain and enrich the main document:

- Appendix A contains a model of text complexity, including both qualitative and quantitative measures of how easy or hard a text is to read, as well as supplementary statements about instruction in writing, language conventions, and vocabulary
- Appendix B consists of text exemplars at all grades/bands to illustrate appropriate complexity and quality in the text types required by the Reading standards
- Appendix C consists of annotated writing samples to show how grade- or grade-band-appropriate writing embodies the relevant Writing standards

January 2010

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Student Practices in Reading, Writing, Speaking, Listening, and Language Use

The following Student Practices in reading, writing, speaking, listening, and language use undergird and help unify the rest of the *Standards*. The Student Practices are not themselves standards: every idea introduced here is subsequently represented in one or more places within the larger document. They are, rather, the "premises"—broad statements about the nature of college and career readiness in reading, writing, speaking, listening, and language use—that underlie the individual standards and cut across the various sections of the document.

* * *

As students progress toward being college and career ready, they exhibit with increasing fullness and regularity the following capacities in their reading, writing, speaking, listening, and language use:

1. They demonstrate independence as readers, writers, speakers, listeners, and language users.

Students can, without significant scaffolding or support, comprehend and evaluate complex text 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 as well as ask questions, build on others' ideas, and articulate their own ideas. They apply language conventions without prompting. On their own, they determine the meaning of words in context and acquire and use new words.

2. They build strong content knowledge.

Students build a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They demonstrate their ability to become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and the discipline-specific expertise needed to comprehend subject matter and solve problems in different fields. They refine their knowledge and share it through substantive writing and speaking.

3. They respond to the varying demands of audience, task, purpose, and discipline.

Students consider their reading, writing, speaking, listening, and language use in relation to the contextual factors of audience, task, purpose, and discipline. They appreciate nuances, such as how the composition and familiarity of the audience should affect tone 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).

4. They comprehend as well as critique.

Students are engaged and open-minded—but skeptical—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.

5. They privilege 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.

6. They care about precision.

Students are mindful of the impact of specific words and details, and they consider what would be achieved by different choices. Students pay especially close attention when precision matters most, such as in the case of reviewing significant data, making important distinctions, or analyzing a key moment in the action of a play or novel.

7. They craft and look for structure.

Students attend to structure when organizing their own writing and speaking as well as when seeking to understand the work of others. They understand and make use of the ways of presenting information typical of different disciplines. They observe, for example, how authors of literary works craft the structure to unfold events and depict the setting.

8. They use technology 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.

9. They come to understand other perspectives and cultures.

Students appreciate that the twenty-first-century classroom and workplace are diverse settings in which people from often widely divergent backgrounds must learn and work together. They actively seek to understand other perspectives and cultures through reading and listening. They do not simply adopt other points of view as their own but rather evaluate them critically and constructively. Literature can play a special role in expanding students' horizons in this way: through reading great classic and contemporary works, students can vicariously inhabit worlds and experiences much different than their own.

COMMON CORE STATE STANDARDS

English Language Learners

The *Standards* articulate rigorous grade-level expectations in the areas of speaking, listening, reading and writing to prepare students to be college and career ready. English language learners (ELLs) must be held to the same high standards expected of students who are already proficient in English. However, because these students are acquiring English language proficiency and content area knowledge concurrently, some students will require additional time and all will require appropriate instructional support and aligned assessments.

ELLs are a heterogeneous group with differences in ethnic background, first language, socio-economic status, quality of prior schooling, and levels of English language proficiency. Effectively educating these students requires adjusting instruction and assessment in ways that consider these factors. For example ELLs who are literate in a first language that shares cognates with English can apply first-language vocabulary knowledge when reading in English; likewise ELLs with high levels of schooling can bring to bear conceptual knowledge developed in their first language when reading in a second language. On the other hand, ELLs with limited or interrupted schooling will need to acquire background knowledge prerequisite to educational tasks at hand. As they become acculturated to US schools, ELLs who are newcomers will need sufficiently scaffolded instruction and assessments to make sense of content delivered in a second language and display this content knowledge.

While some ELLs are economically and educationally advantaged, this is not the case for many of these students. Moreover, once in the U.S., the majority of ELLs attend high poverty schools with high percentages of other ELLs. These schools often lack the resources and capacity needed to help ELLs reach high academic standards. However, schools and districts can be assisted in providing a positive learning environment that capitalizes on the linguistic and cultural diversity of the student body.

To help ELLs meet high academic standards in reading, writing, speaking, listening and language use it is essential that ELLs have access to:

- The requisite coursework to prepare them for post-secondary education or the workplace;
- Coursework that is made comprehensible for students learning content in a second language, through specific pedagogical techniques and additional resources;
- Teachers, as well as school-level and district personnel, who are well prepared and qualified to support English-language learners;
- Well designed opportunities for classroom discourse and interaction to enable ELLs to develop communicative strengths in language arts
- Speakers of English who know the language well enough to provide the ELLs with models and support; and
- Ongoing assessment and feedback to guide learning.

It is also worth noting that instruction for these students is additionally guided by language proficiency standards that language arts teachers can use in conjunction with the English language arts standards to help ELLs become fully proficient and literate in English.

Appendix B2: Draft Standards in ELA and Mathematics

Access for Students with Disabilities

The *Standards* articulate rigorous expectations in the areas of reading, writing, speaking, listening, and language use in order to prepare students to be college and career ready. These standards identify the knowledge and skills students must acquire in order to be successful. Research shows that students with disabilities are capable of high levels of learning and should not be limited by low expectations and watered down curriculum. The vast majority of this population of students, including students with intellectual impairments,[1] *can* achieve proficiency when they receive high-level instruction and accommodations. It is imperative that these highly capable students—regardless of their disability—are held to the same expectations articulated in the Core Standards as other students.

However, *how* these high standards are taught is of the utmost importance in reaching students with special needs. When acquiring the knowledge and skills represented in the Core Standards, students with disabilities may need accommodations[2] or—in exceptional cases—modified goals, incorporated in an individualized education program (IEP),[3] to help them access information or demonstrate their knowledge. In instances when a standard asks students to perform actions they are physically incapable of, students will need to be presented with alternative options to demonstrate similar knowledge and skills within the range of their abilities. Accommodations based on individual needs allow students of all disability levels to learn within the framework of the *Standards*.

Meeting English Language Arts (ELA) Standards

Reading, writing, speaking, listening, and language use standards—given the nature of the standards themselves—often require accommodations for students with disabilities. For example, a standard that calls for "listening" should be interpreted to include reading sign language. "Speaking" should be read broadly to include "communication" or "self-expression." "Reading" should allow for students' use of Braille, screen reader technology, or other assistive devices to demonstrate comprehension skills. In a similar vein, "writing" should not preclude the use of a scribe, computer, or speech-to-text technology. With appropriate accommodations and support, students with all levels of disabilities can participate in the general education curriculum and achieve grade-level proficiency with regard to the ELA content and skills articulated in the *Standards*.

In short, while the *Standards* set and retain high expectations for all students, they may need to be translated and occasionally modified to apply appropriately to students with disabilities, including all levels of intellectual impairment. Promoting a culture of high expectations for all students is a fundamental goal of the *Standards*. Achieving this goal requires the inclusion of students with disabilities.

[1] Less than two percent of the population of all students and less than 20% of the population of students with disabilities.

[2] See the Council of Chief State School Officers, (2003), *Training District and State Personnel on Accommodations: A Study of State Practices, Challenges, and Resources* at http://www.ccsso.org/publications/details.cfm?PublicationID=221 for further explanation and evidence around accommodations.

[3] According to the Individuals with Disabilities Act (IDEA), an IEP includes appropriate accommodations that are necessary to measure the individual achievement and functional performance of a child.

How to Read This Document

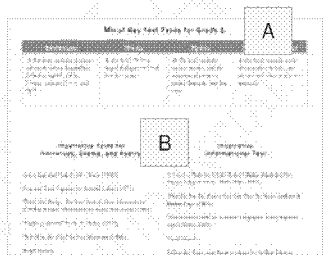
The *Standards* are divided into an ELA-specific document (*Standards for English Language Arts K–12*) and a literacy document for history and science (*Standards for Literacy in History and Science 6–12*). The ELA document includes standards for and examples of history and science reading in K–5.

The ELA-specific document is organized by grade (kindergarten and grades 1, 2, and 3) and grade band (grades 4–5, 6–8, 9–10, and 11–CCR). The *Standards for Literacy in History and Science* are organized by grade band (grades 4–5, 6–8, 9–10, and 11–CCR). Each grade/band is divided into strands—Reading, Writing, Speaking and Listening, and Language Development.

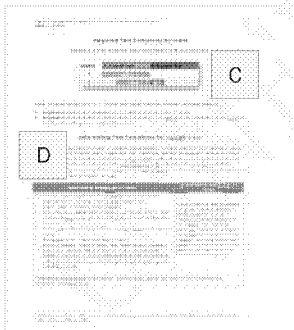
While all strands contain standards statements, each strand also has its own specific features.

Reading and Literature (ELA)/Reading (History/Science)

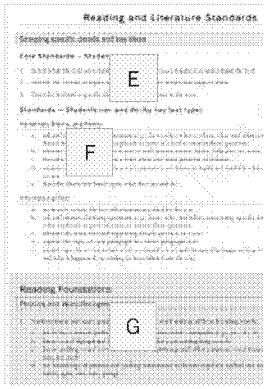
Kindergarten and grade 1 begin with the **mix of key text types (A)**, which identifies the genres and subgenres of reading material appropriate for each grade. This is followed by a list of **illustrative texts (B)** in the key text types. This list is suggestive of the sorts of texts appropriate for the grade in terms of complexity and quality; excerpts appear in Appendix B.



Grades 2, 3, 4–5, 6–8, 9–10, and 11–CCR include this information immediately after a graphic specifying **required text complexity by grade (C)**—in brief, the proportion of texts within and above grade band that students must read each year. (For example, 70% of the texts that grade 3 students read should come from the grades 2–3 text complexity band, while the other 30% should come from the grades 4–5 band.) An overview of the method for **determining text complexity (D)** in the particular grade band follows. (A fuller treatment is provided in Appendix A.)



All grades/bands organize standards under a number of boxed subheadings (e.g., "Grasping specific details and key ideas"). The standards at all grade levels are divided into cross-cutting **Core Standards (E)**, which are numbered and applicable to many types of reading, and more specific **Standards (F)**, which are lettered and organized by text type (e.g., "Narratives, Drama, and Poetry"). Kindergarten and grades 1, 2, and 3 also include boxed sections of **reading foundations (G)**, which enumerate basic concepts of print and other foundational skills in reading that very young students must acquire.



Appendix B2: Draft Standards in ELA and Mathematics

Writing and Research

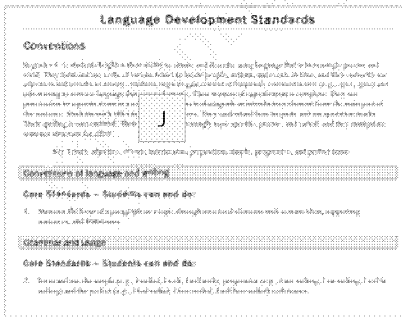
Cross-cutting **Core Standards (H)**, which are numbered and apply to many types of writing, are organized under a number of boxed subheadings (e.g., "Writing to reflect audience, purpose, and task"). **Standards (I)** specific to writing in particular text types—narrative, informative and explanatory text, and argument—are lettered and follow in a separate section. In kindergarten through grade 5, writing arguments takes the form of opinion writing, hence the parenthetical notation next to "Arguments" in those grades/bands.

Speaking and Listening

Cross-cutting **Core Standards**, which are numbered and apply to speaking and listening in many situations, are grouped with lettered **Standards**, which set requirements for speaking and listening in key communication (e.g., "Presentation of Ideas and Information").

Language Development

This strand is organized differently in the ELA and history/science documents. The ELA strand comprises two full sections: Conventions and Vocabulary. Each section includes numbered **Core Standards** organized under a number of boxed subheadings (e.g., "Mechanics") and introduced by a brief summative paragraph and list of **key terms (J)** intended to be taught explicitly in grade-appropriate ways. ELA Vocabulary consists of three subsections—determining the meaning of words, understanding the nuances of words, and acquiring vocabulary—under each of which numbered Core Standards appear. Language Development in the history/science document consists of the summative paragraphs for Conventions and all of the Vocabulary section found in ELA except for nuances in word meaning.

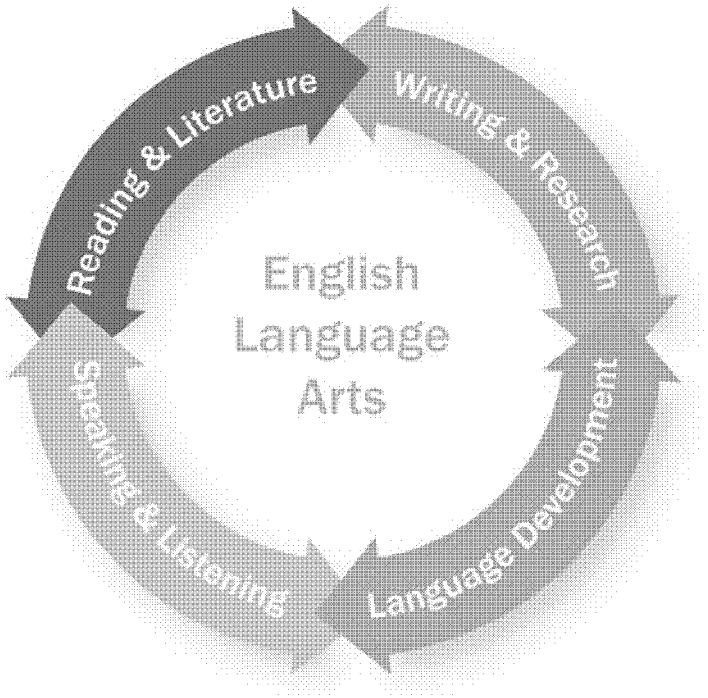


Focus for Instruction

Beginning with grade 4, a page summarizing grade-level responsibility, including grade-specific areas of focus, is provided to help distinguish responsibilities within multiyear bands.

English Language Arts

Kindergarten



Appendix B2: Draft Standards in ELA and Mathematics

Mix of Key Text Types for Kindergarten

Narratives	Drama	Poetry	Informational Text
At this level, includes children's adventure stories, biographies, folktales, legends, fables, fantasy, realistic fiction, and myth.	*At this level, includes staged dialogue and brief familiar scenes.*	*At this level, includes nursery rhymes and the subgenres of narrative poems, limericks, and free verse.*	*At this level, includes books about science, history, and the arts and other nonfiction materials.*

Illustrative Texts for Narratives, Drama, and Poetry[4]	Illustrative Informational Texts
Are You My Mother? by P.D. Eastman (1960)	*My Five Senses* by Aliki (1962)
Put Me in the Zoo by Robert Lopshire (1960)	Read Alouds:
"Mix a Pancake" by Christina Rosetti (1986)	*Amazing Whales!* by Sarah L. Thomson (2005)
Wouldn't You?" by John Ciardi (1986)	*The Year at Maple Hill Farm* by Alice and Martin Provensen (1978)

[4] See Appendix B for other texts illustrative of Kindergarten-Grade 1 text complexity. This list includes read-alouds.

Reading and Literature Standards[5]

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Retell key details and information drawn from the text.
2. Explain the subject of the text or the problem the characters face.
3. Answer questions about characters and events that take place in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. retell the beginnings, middles, and endings of stories
b. ask and answer questions about details of a text
c. identify the problems that characters face in a story and the lessons learned
d. identify the feelings of characters and the reasons for their actions
e. differentiate between realistic and fantastical elements within a story

Informational Text

a. restate key information (e.g., events, subject, ideas) from a text
b. ask and answer questions about details of a text

Reading Foundations

Print Concepts

1. Students demonstrate understanding of the organization and basic features of print.
   a. identify basic features and conventions of books and other written texts (e.g., front cover, back cover, title, author)
   b. understand that print is left to right, top to bottom, and page by page
   c. understand that words are separated by spaces in print
   d. recognize and name all upper- and lowercase letters of the alphabet

Linguistic Awareness

2. Students gain awareness of spoken words, syllables, and phonemes.
   a. recognize, recite, and produce rhyming words
   b. count, pronounce, blend, and segment syllables in spoken words
   c. recognize, blend, and segment onset and rimes of spoken words [*/g/ - /oat/; /bl/ - /ock/*)
   d. count or place tokens for individual words in spoken phrases or simple sentences
   e. orally blend and segment individual phonemes in simple, one-syllable words
   f. demonstrate phonemic awareness by isolating and pronouncing the initial and final phonemes (sounds) in three-phoneme /CVC/ words without consonant blends (e.g., */road/, /save/, /ham/*)
   g. add or substitute individual phonemes in simple, one-syllable words to make new words (e.g., */at/* ⟶ */sat/* ⟶ */mat/* ⟶ */map/*)

[5] The expectation is that students can fulfill these standards with texts they read independently as well as texts that are read aloud to them.

Confidential Draft

Appendix B2: Draft Standards in ELA and Mathematics

Observing craft and structure

Core Standards — Students can and do:

4. Identify the meanings of words and phrases as they are used in the text.
5. Identify important parts or sections of texts.
6. Compare and contrast characters or events from different stories.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. identify words and phrases that suggest feelings or appeal to the senses
b. identify similarities in beginning and ending sounds of words in children's poems and songs
c. identify parts of a story and parts of a poem as well as sections of informational picture books and tell how they are different
d. identify common characteristics of folktales and fairy tales, including their use of rhyme, rhythm, and repetition
e. participate (e.g., react, speculate, read along, act out) when familiar texts are read aloud
f. compare and contrast characters or events from different stories written by the same author or written about similar subjects

Informational Text

a. identify basic text features and what they mean, including titles and subtitles, table of contents, and chapters

Reading Foundations, continued

Phonics and Word Recognition

3. Students know and apply grade-level phonics and word analysis skills in decoding words.
   a. demonstrate basic knowledge of letter-sound correspondences by producing the primary or most frequent sound for each consonant
   b. identify which letters represent the five major vowels and know the long and short sound of each
   c. blend letter-sounds to decode short-vowel CVC words (e.g., *cat*, *mop*, *sun*)
   d. read at least 25 very high frequency words by sight (e.g., *of*, *to*, *he*, *she*, *is*, *do*, *does*)

Developing Fluency

4. Students read with sufficient accuracy and fluency to support comprehension.
   a. read rebus and preprimer texts with purpose and understanding
   b. demonstrate increased accuracy and fluency on successive readings of a text

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Use text illustrations to predict or confirm what the text is about.
8. Identify words in a text that link ideas and events together.
9. Identify who is telling a story or providing information in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. use pictures, illustrations, and context to make predictions about and confirm story content
b. identify words in a story that link events together (e.g., *first/second*, *then*, *next*, *before/after*, *later*, *finally*)
c. identify who is the speaker in a story or poem

Informational Text

a. identify words that link ideas together (e.g., *also*, *in addition*, *for example*, *but*)
b. identify the author and sources of information when provided by the text

Developing habits for reading text

Core Standards — Students can and do:

10. Begin to read independently and/or with a partner, sustaining effort necessary to build understanding.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and opinions that communicate to a familiar, known audience.

Conducting research

Core Standards — Students can and do:

2. Gather information from experiences or provided text sources.

Revising writing

Core Standards — Students can and do:

3. With specific guidance, add details to strengthen writing through revision.

Appendix B2: Draft Standards in ELA and Mathematics

Using tools and technology

Core Standards — Students can and do:

4. Gain familiarity with technology and other tools to produce, revise, and edit writing.

Standards — Students can and do (by key text type):[6]

Narratives

a. establish a situation in time and/or place
b. recount several loosely linked actions in a short, familiar event, controlling for chronological order
c. provide a reaction to what happened

Informative and Explanatory Texts

a. establish the topic in a title or first sentence
b. supply facts and information relevant to the topic

Arguments (opinions)

a. introduce the topic directly, or use the title of a book when writing about a text
b. express preferences or opinions (e.g., *My favorite book is . . .*) relevant to the topic
c. provide a reason for preference or opinion (e.g., *It reminded me of when I met my friend Carlos*)
d. use linking words that express causality (e.g., *I like . . . because . . .*)

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively in group activities requiring speaking and listening.
2. Listen closely to and sustain attention on texts read aloud as well as other sources of information presented orally, visually, or multi-modally and confirm understanding by restating the information and answering pertinent questions.

Standards — Students can and do (by key communication type):

Classroom discussions and participating productively

a. initiate and participate in conversations with peers and adults through multiple exchanges, attending to the comments of others
b. confirm understanding by restating information or answering questions about what has been discussed
c. ask questions to get information, ask for help, or clarify something that is not understood
d. follow norms for conversation, such as listening to others and taking turns to speak

Exchanging information and speaking effectively

Core Standards — Students can and do:

[6] See Appendix D for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

3. Share experiences and ideas that demonstrate an awareness of their listeners.
4. Speak audibly and clearly.

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. describe people, places, things, and events with relevant facts and examples
b. recite or read aloud poems, rhymes, songs, and stories, speaking clearly at an understandable pace

Language Development Standards

Conventions

In kindergarten, students learn to form letters and words in print and to relate sounds (phonemes) to one or more letters. They understand the notion of a sentence, that a sentence performs one of a few basic functions (make a statement, ask a question, or issue a command), and that end punctuation can signal the sentence's function or intensity. With prompting and assistance, they form and expand basic sentences in order to express thoughts, beginning the sentence with a capital letter. Students have a sense of what a noun is, of what singular and plural nouns are, and of how plural nouns are often formed. They also know how to use the most frequently occurring prepositions.

Key Terms: exclamation point, capital/uppercase and lowercase letter, singular and plural noun, period, punctuation, question mark, sentence

Conventions of language and writing

Core Standards — Students can and do:

1. Print all upper- and lowercase letters.
2. Write a letter or letters for each consonant and short-vowel sound (phoneme).

Grammar and usage

Core Standards — Students can and do:

3. Produce and expand complete sentences in shared writing and language activities.
4. Use and understand question words (e.g., *what, where, when, who, which, how*).
5. Form regular plural nouns by adding /s/ or /es/ (e.g., *dog, dogs*; *wish, wishes*; *baby, babies*).
6. Demonstrate understanding of the most frequently occurring prepositions (e.g., *to/from, in/out, on/off, for, of, by, with*).

Mechanics

Core Standards — Students can and do:

7. Capitalize the first word in a sentence and the pronoun *I*.
8. Identify end punctuation, including periods, question marks, and exclamation points.

9. Spell simple words phonetically using knowledge of sound-letter relationships.

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word—as compared to simply a definition. In kindergarten, students learn about words in terms of like versus unlike and "similar but not quite the same," using objects and movements as aids. They learn to use descriptive language to distinguish one object from another and order and position words to describe sequences and spatial relationships. They acquire new words through interactive language use, including informal talk, discussion, listening to and responding to texts read aloud as well as by being taught the words directly.

Determining the meaning of words

Core Standards — Students can and do:

1. Sort common objects into categories (e.g., shapes, foods).

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

2. Act out the meaning of verbs describing the same general action (e.g., *walk*, *march*, *strut*, *prance*) to gain a sense of their different meanings.
3. Demonstrate understanding of common adjectives by relating them to their opposites (antonyms).
4. Use common adjectives to distinguish objects (e.g., the *small blue* square, the *shy white* rabbit).

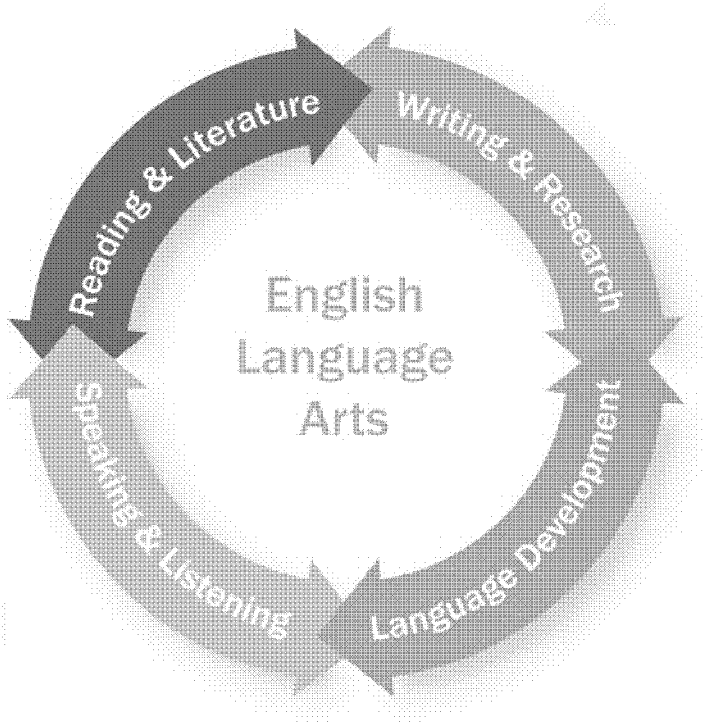
Acquiring vocabulary

Core Standards — Students can and do:

5. Demonstrate meaning of new vocabulary taught directly and gained through conversations and hearing texts read aloud.
6. Demonstrate understanding of words that express order and position (e.g., *first*, *middle*, *last*; *before*, *after*; *under*, *over*).

English Language Arts

Grade 1



Appendix B2: Draft Standards in ELA and Mathematics

Mix of Key Text Types for Grade 1

Narratives	Drama	Poetry	Informational Text
At this level, includes children's adventure stories, biographies, folktales, legends, fables, fantasy, realistic fiction, and myth.	*At this level, includes staged dialogue and brief, familiar scenes.*	*At this level, includes nursery rhymes and the subgenres of narrative poems, limericks, and free verse.*	*At this level, includes books about science, history, and the arts and other nonfiction materials.*

Illustrative Texts for Narratives, Drama, and Poetry[7]

Green Eggs and Ham by Dr. Seuss (1960)

Frog and Toad Together by Arnold Lobel (1971)

Henry and Mudge: The First Book of Their Adventures by Cynthia Rylant, illustrated by Suçie Stevenson (1987)

"Halfway Down" by A. A. Milne (1924)

"It Fell in the City" by Eve Merriam (1986)

Read alouds:

Little House in the Big Woods by Laura Ingalls Wilder, illustrated by Garth Williams (1932)

Zin! Zin! Zin! a Violin by Lloyd Moss, illustrated by Marjorie Priceman (1995)

Illustrative Informational Texts

A Tree Is a Plant by Clyde Robert Bulla, illustrated by Stacey Schuett (text: 1960/illus: 2001)

What Do You Do With a Tail Like This? by Steve Jenkins & Robin Page (2003)

"Our Good Earth" in *National Geographic Young Explorer*, April (2009)

Read alouds:

Follow the Water from Brook to Ocean by Arthur Dorros (1991)

Living Sunlight: How Plants Bring the Earth to Life by Molly Bang & Penny Chisholm, illustrated by Molly Bang (2009)

[7] See Appendix C for other texts illustrative of Kindergarten–Grade 1 text complexity. This list includes read-alouds.

Reading and Literature Standards[8]

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Retell key details and information drawn from the text.
2. Explain the subject of the text or the problem the characters face.
3. Answer questions about characters and events that take place in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. retell the beginnings, middles, and endings of stories
b. ask and answer questions about details of a text
c. identify the problems that characters face in a story and the lessons learned
d. identify the feelings of characters and the reasons for their actions
e. differentiate between realistic and fantastical elements within a story

Informational Text

a. restate key information (e.g., events, subject, ideas) from a text
b. ask and answer questions about details of a text

Reading Foundations

Linguistic Awareness

1. Students gain awareness of spoken words, syllables, and phonemes.
   a. aurally distinguish long from short vowel sounds in spoken single-syllable words (e.g., */tap/* vs. */tape/*; */sock/* vs. */soak/*; */sit/* vs. */sight/*)
   b. produce single-syllable words by orally blending phonemes, including consonant blends (e.g., */cats/*, */black/*, */blast/*)
   c. isolate and pronounce initial, medial vowel, and final phonemes (sounds) in single-syllable words (e.g., *fast*, */fast/*, */fast/*)
   d. orally segment single-syllable words into their complete sequence of individual phonemes

[8] The expectation is that students can fulfill these standards with texts they read independently as well as texts that are read aloud to them.

Observing craft and structure

Core Standards — Students can and do:

4. Identify the meanings of words and phrases as they are used in the text.
5. Identify important parts or sections of texts.
6. Compare and contrast characters or events from different stories.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. identify words and phrases that suggest feelings or appeal to the senses
b. identify similarities in beginning and ending sounds of words in children's poems and songs
c. identify parts of a story and parts of a poem as well as sections of informational picture books and tell how they are different
d. identify common characteristics of folktales and fairy tales, including their use of rhyme, rhythm, and repetition
e. participate (e.g., react, speculate, read along, act out) when familiar texts are read aloud
f. compare and contrast characters or events from different stories written by the same author or written about similar subjects

Informational Text

a. identify basic text features and what they mean, including titles and subtitles, table of contents, and chapters

Reading Foundations, continued

Phonics and Word Recognition

2. Students know and apply grade-level phonics and word analysis skills in decoding words.
   a. know the common spelling-sound correspondences for consonants (e.g., *wr-*, *sh*, *-ck*, *-ll*)
   b. know vowel digraph and final *-e* conventions for representing long vowels
   c. know spelling-sound correspondences for diphthongs and other common vowel teams (e.g., *loud*, *cow*, *book*, *loop*, *boy*, *boil*)
   d. use knowledge of phonics and spelling conventions to decode regularly spelled one-syllable words (e.g., *sick*, *march*, *sight*, *slice*, *bake*, *spring*)
   e. understand that every syllable must have a vowel sound and use that knowledge to determine the number of syllables in a word
   f. decode two-syllable words following basic patterns (e.g., *rabbit*, *magnet*, *napkin*, *pickle*, *butter*)
   g. read words with inflectional endings (e.g., *-s*, *-es*, *-ies*, *-ed*, *-ied*, *-ing*, *-er*, *-est*)
   h. use phonics to decode visually new words when reading
   i. recognize grade-appropriate, irregularly spelled words by sight

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Use text illustrations to predict or confirm what the text is about.
8. Identify words in a text that link ideas and events together.
9. Identify who is telling a story or providing information in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. use pictures, illustrations, and context to make predictions about and confirm story content
b. identify words in a story that link events together (e.g., *first/second*, *then*, *next*, *before/after*, *later*, *finally*)
c. identify who is the speaker in a story or poem

Informational Text

a. identify words that link ideas together (e.g., *also*, *in addition*, *for example*, *but*)
b. identify the author and sources of information when provided by the text

Developing habits for reading text

Core Standards — Students can and do:

10. Begin to read independently and/or with a partner, sustaining effort necessary to build understanding.

Reading Foundations, continued

Developing Fluency

3. Students read with sufficient accuracy and fluency to support comprehension.
   a. demonstrate increased accuracy, fluency, and expression on successive readings of a text
   b. use context to confirm or self-correct word recognition and understanding, rereading as necessary
   c. read aloud, alone, or with a partner at least 15 minutes each day, in school or out

Appendix B2: Draft Standards in ELA and Mathematics

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and opinions that communicate to a familiar, known audience.

Conducting research

Core Standards — Students can and do:

2. Gather information from experiences or provided text sources.

Revising writing

Core Standards — Students can and do:

3. With specific guidance, add details to strengthen writing through revision.

Using tools and technology

Core Standards — Students can and do:

4. Gain familiarity with technology and other tools to produce, revise, and edit writing.

Standards — Students can and do (by key text type):[9]

Narratives

a. establish a situation in time and/or place that is appropriate for the sequence of events to follow
b. develop appropriately sequenced actions within one or more events using linking words, phrases, or clauses to signal chronological ordering
c. provide a reaction to what happened
d. include dialogue if appropriate, and some details
e. provide a sense of closure and/or a reflective statement

Informative and Explanatory Texts

a. include some sort of beginning to establish the topic (beyond using the title of the piece)
b. supply facts and information relevant to the topic
c. use simple additive linking words (e.g., *and, first, second*) to create connections between the facts
d. provide examples relevant to the topic
e. provide a sense of closure

Arguments (opinions)

a. introduce the topic or book directly, or use the title of the book as an introduction
b. state opinions (e.g., *My best friend is . . .*) relevant to the topic
c. provide reasons for opinions and details to support them

[9] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

d. use linking words that express causality (e.g., *I like . . . because . . .*)
e. refer to the content of the text when writing about literature

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively in group activities requiring speaking and listening.
2. Listen closely to and sustain attention on texts read aloud as well as other sources of information presented orally, visually, or multi-modally and confirm understanding by restating the information and answering pertinent questions.

Standards — Students can and do (by key communication type):

Classroom discussions and participating productively

a. initiate and participate in conversations with peers and adults through multiple exchanges, attending to the comments of others
b. confirm understanding by restating information or answering questions about what has been discussed
c. ask questions to get information, ask for help, or clarify something that is not understood
d. follow norms for conversation, such as listening to others and taking turns to speak

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Share experiences and ideas that demonstrate an awareness of their listeners.
4. Speak audibly and clearly.

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. describe people, places, things, and events with relevant facts and examples
b. recite or read aloud poems, rhymes, songs, and stories, speaking clearly at an understandable pace

Language Development Standards

Conventions

In grade 1, students gain increasing skill and independence in sentence formation and development. They have a sense of what a verb is and that its form changes to signal different time periods (past, present, and future). Their repertoire of prepositions continues to expand, and they use pronouns with regularity. Students capitalize names, places, and dates. They use end punctuation as well as commas in dates and in simple series of words. Their range of word-formation and spelling strategies grows.

Appendix B2: Draft Standards in ELA and Mathematics

Key Terms: comma, pronoun, verb

Grammar and usage

Core Standards — Students can and do:

1. Produce and expand complete sentences in response to questions and prompts.
2. Use subject, object, and possessive pronouns (e.g., *I, me, my; they, them, their*).
3. Use verbs to convey a sense of past, present, and future in writing and speaking (e.g., *Today I walk home; Yesterday I walked home; Tomorrow I will walk home*).
4. Demonstrate understanding of frequently occurring prepositions (e.g., *during, beyond, toward*).

Mechanics

Core Standards — Students can and do:

5. Capitalize names, places, and dates.
6. Use end punctuation for sentences, including periods, question marks, and exclamation points.
7. Use commas in dates and to separate single words in a series.
8. Form new words through addition, deletion, and substitution of sound and letters (e.g., *an* → *man* → *mat* → *mast* → *must* → *rust* → *crust*).
9. Use conventional spelling for words with common spelling patterns and common irregular words.
10. Use phonetic spellings for untaught words, drawing on phonemic awareness and spelling conventions.

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word—as compared to simply a definition. In grade 1, students begin to sort words themselves into categories rather than the objects that they name. They are able to define familiar words (e.g., *duck*) in a two-step process of identifying a category (bird) to which it belongs and naming one or more attributes that distinguish this category member from others (able to swim). Students grasp that many words they know can mean different things depending on how the word is used, and they make distinctions between and among closely related verbs and adjectives in terms of manner and intensity. They acquire new words through interactive language use, including informal talk, discussion, listening to and responding to texts read aloud as well as by being taught the words direct.

Determining the meaning of words

Core Standards — Students can and do:

1. Sort words into categories (e.g., colors, clothing).
2. 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).
3. Demonstrate understanding of the concept of multiple-meaning words (e.g., *match, kind, play*) by identifying various meanings of some grade-appropriate examples of such words.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

4. Define, choose, or act out the meaning of closely related verbs that differ in manner (e.g., *look, peek, glance, stare, glare, scowl; speak, shout, mumble, whine, whimper, murmur*).
5. Distinguish among closely related adjectives that differ in intensity (e.g., *large, gigantic; hot, scalding; tasty, delicious; quiet, silent*).

Acquiring vocabulary

Core Standards — Students can and do:

6. Acquire and use new vocabulary taught directly and gained through conversations and hearing texts read aloud.

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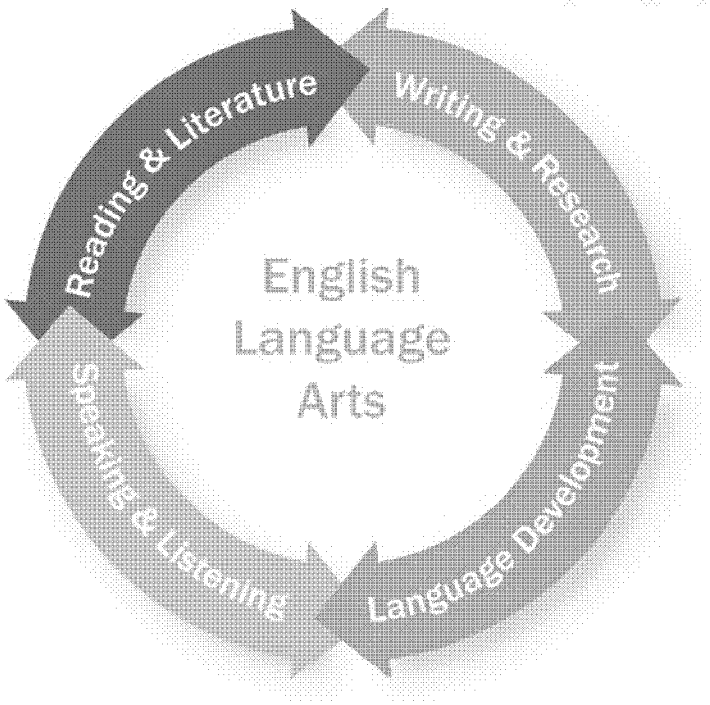
English Language Arts

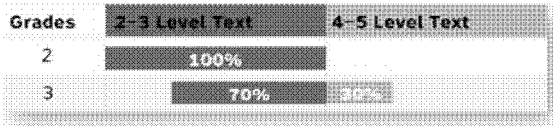
Grade 2



Appendix B2: Draft Standards in ELA and Mathematics

Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grade



While advancing through the grades, students must engage with texts of steadily increasing complexity.

- **In grade 2**, students focus on reading texts in the 2–3 grade band level with scaffolding likely required for texts at the high end of the range.

Determining Text Complexity for Grades 2–3

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts[10]	Quantitative Measures of Texts
• *Structure:* Explicit, simple, conventional, simple graphic representations are supplementary to meaning; texts are relatively short • *Purpose:* Single; explicitly stated • *Style and Language:* Familiar, accessible, plain; few literary devices; mostly clear, everyday language; limited use of Tier 2 and 3 words and figurative language • *Richness:* A few ideas/concepts; concrete; low information density • *Relationships:* A few connections; explicit • *Knowledge Demands:* Ability to handle simple themes and fantastical elements as well as draw upon common, everyday experiences, general background knowledge and familiarity with genre conventions required; some everyday and general content knowledge	A study is underway with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences as well as their interests, motivations, and maturity level.	

[10] Adapted from ACT, Inc., (2005); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for Grade 2

Narratives	Drama	Poetry	Informational Text
At this level, includes children's adventure stories, biographies, folktales, legends, fables, fantasy, realistic fiction, and myth.	*At this level, includes staged dialogue, scenes, and brie, familiar scenes.*	*At this level, includes nursery rhymes and the subgenres of narrative poems, limericks, and free verse.*	*At this level, includes books about science, history, and the arts and other nonfiction materials.*

Illustrative Texts for Narratives, Drama, and Poetry[11]

Crow Boy by Taro Yashima (1955)

The Stories Julian Tells by Ann Cameron (1981)

Tops and Bottoms by Janet Stevens (1995)

"Grandpa's Stories" by Langston Hughes (1958)

"Weather" by Eve Merriam (1969)

Read alouds:

The Cricket in Times Square by George Selden, illustrated by Garth Williams (1960)

"Fireflies" by Paul Fleischman, illustrated by Eric Beddows (1988)

Illustrative Informational Texts

Maps & Globes by Jack Knowlton, pictures by Harriet Barton (1985)

Sunshine Makes the Seasons by Franklyn M. Branley (1985)

From Seed to Plant by Gail Gibbons (1991)

Boy, Were We Wrong About Dinosaurs by Kathleen V. Kudlinski, illustrated by S.D. Schindler (2005)

[11] See Appendix B for other texts illustrative of Grades 2-3 text complexity.

Appendix B2: Draft Standards in ELA and Mathematics

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Retell what the text says explicitly and make inferences required to understand the text.
2. Identify the lessons or topics of the text and the key details that support them.
3. Describe in detail a specific character, event, or topic in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. ask and answer clarifying questions (e.g., how, why, where, when, who, and what) concerning specific details in the text and refer explicitly to parts of a text to answer these questions
b. identify or infer the moral or lesson in well-known stories, fables, folktales, or myths
c. describe how major events in a story often lead from problem to solution
d. examine a specific incident in a story, narrative, or drama in depth and establish when, where, and why it occurs
e. describe characters based upon what they say and do

Informational Text

a. accurately restate the key information provided by the text
b. ask and answer clarifying questions (e.g., how, why, and what) concerning specific details in the text and refer explicitly to parts of a text to answer these questions
c. identify the main idea and supporting details and facts in a text
d. explain the topic of each paragraph in a multi-paragraph text
e. identify specific events in historical or scientific texts and discuss what happened, as well as where, when, and why it happened, according to facts taken from the text

Reading Foundations

Phonics and Word Recognition

1. Students know and apply grade-level phonics and word analysis skills in decoding words.
   a. know the common spelling-sound correspondences for consonants (e.g., *wr-*, *sh*, *-ck*, *ll*)
   b. know vowel digraph and final-e conventions for representing long vowels
   c. know spelling-sound correspondences for diphthongs and other common vowel teams (e.g., *loud*, *cow*, *book*, *loop*, *boy*, *boil*)
   d. use knowledge of phonics and spelling conventions to decode regularly spelled one-syllable words (e.g., *sick*, *march*, *sight*, *slice*, *bake*, *spring*)

Observing craft and structure

Core Standards — Students can and do:

4. Explain the meanings of words and phrases as they are used in the text.
5. Gain familiarity with different ways of presenting stories and information in text.
6. Compare and contrast different versions of the same story or informational texts on the same subject.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. recognize sensory details and how they are used to describe events, feelings, and objects
b. describe the different ways poets use rhyme, rhythm, and sensory images to convey a topic or message
c. identify repetitions in phrases, refrains, or sounds in poems and songs
d. describe story elements, including characters, setting, the problem, and how it is resolved
e. discuss stories written by the same author about similar characters or compare different versions of similar well-known tales and myths from various cultures

Informational Text

a. locate key words, facts, or other details using features of texts (e.g., captions, headings, glossaries, indexes, electronic menus, and icons)
b. distinguish between writing that is based on real events and writing that is based on fantasy or fictional events
c. combine information from two different parts of a text and identify how they are related (e.g., chronology, causation)
d. after reading two passages on the same subject, combine the information to more fully describe a topic

Reading Foundations, continued

Developing Fluency

2. Students read with sufficient accuracy and fluency to support comprehension.
   a. demonstrate increased accuracy, fluency, and expression on successive readings of a text
   b. use context to confirm or self-correct word recognition and understanding, rereading as necessary
   c. read alone or with a partner at least 20 minutes each day, in school or out

Appendix B2: Draft Standards in ELA and Mathematics

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Locate and use information from graphs, illustrations, and electronic sources.
8. Identify and understand words and phrases that indicate logical relationships.
9. Identify who is telling the story or providing information at any given point in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. efficiently navigate stories in print and electronic text and explain how images and illustrations connect to and clarify the content
b. identify who is telling the story or who is speaking in a drama

Informational Text

a. use information from visual elements of print and electronic texts (e.g., graphs, maps, charts, illustrations, photographs, diagrams) and explain how they help a reader understand the text
b. identify words (e.g., *such as*, *because*, *therefore*, *in order to*, *since*) that logically connect ideas in sentences and paragraphs

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding text.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and opinions that communicate to a familiar, known audience.

Conducting research

Core Standards — Students can and do:

2. Gather information from experiences or provided text sources.

Revising writing

Core Standards — Students can and do:

3. With specific guidance, strengthen writing through revision.

Using tools and technology

Core Standards — Students can and do:

4. Gain familiarity with technology and other tools to produce, revise, and edit writing.

Standards — Students can and do (by key text type):[12]

Narratives

a. establish a situation in time and/or place that is appropriate for the sequence of events to follow
b. recount a single well-elaborated event or sequence of events, managing chronological sequence with temporal words, phrases, and clauses
c. tell what the narrator thought or felt
d. include dialogue if appropriate and specific details
e. provide closure through reaction, commentary, or summation

Informative and Explanatory Texts

a. produce a brief introduction
b. create an organizational structure that presents similar information together, frequently patterned after chapter book headings or picture books
c. use adequate and specific facts and definitions to develop points
d. use linking words, such as *also*, *another*, *and*, and *more*, to connect ideas within categories of information, and headers to signal groupings
e. include a concluding sentence or section

Arguments (opinions)

a. introduce the topic or book(s) directly
b. state opinion(s) relative to the topic
c. provide reasons for opinions and details to support them
d. create a list-like structure for organization
e. use words to link and organize opinions and reason(s) (e.g., *because*, *another*, *and*, *also*)
f. refer to the text(s) when writing about literature
g. close with a concluding statement or recommendation

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively in small groups and as a class, engaging in a series of oral exchanges about texts and topics.

[12] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

Appendix B2: Draft Standards in ELA and Mathematics

2. Sustain concentration on information presented orally, visually, or multi-modally and confirm understanding by paraphrasing the information.

Standards — Students can and do (by key communication type):

Classroom discussions and participating productively

a. engage in conversations on familiar topics
b. paraphrase the key information or ideas of others presented orally or through other media
c. inquire about oral or visual presentations to deepen understanding or clarify comprehension
d. link additions to conversation to the previous remarks of others
e. participate productively by listening politely to the ideas of others, taking turns speaking, and extending their ideas in light of discussions

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Share experiences and ideas, thinking about the needs of their listeners.
4. Speak audibly and clearly at an understandable pace.

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. recount stories or experiences with descriptive details by answering who, what, where, when, how, and why questions about them
b. report on a topic, including appropriate facts and details
c. use appropriate tone to express ideas, feelings, and needs clearly
d. recite or read aloud poems, rhymes, songs, and stories, speaking clearly at an understandable pace

Language Development Standards

Conventions

In grade 2, students create sentences of expanding length and complexity, though their control over these sentences is likely to be imperfect. Their command of noun and verb formation extends to common irregular forms. Students capitalize correctly in most situations. Their use of punctuation has grown to include commas in greetings and closings of letters as well as apostrophes to form contractions and to signal possession. Their spelling is increasingly conventional, and they now consult references, such as beginning dictionaries, to aid them when needed.

Key Terms: apostrophe, contraction, regular and irregular nouns and verb, possessive

Grammar and usage

Core Standards — Students can and do:

1. Generate and expand sentences with embedded, dependent, or conjoined clauses (e.g., *After we came home from school, I fed the gerbil and my sister cleaned the cage*).
2. Form common irregular plural nouns (e.g., *feet, children, teeth, mice, fish, women*).

3. Form the past tense of common irregular verbs (e.g., *sat, hid, told*).

Mechanics

Core Standards — Students can and do:

4. Capitalize holidays, product names, geographic names, and important words in titles.
5. Use commas in greetings and closings of letters.
6. Use apostrophes to punctuate contractions and to form common possessives.
7. Use conventional spelling for high-frequency and other studied words.
8. Generalize learned spelling patterns when writing words (e.g., *cage* → *badge*; *boy* → *boil*; *paper* → *copper*).
9. Use spelling rules for adding suffixes to base words (e.g., *sitting, smiled, cries, happiness*).
10. Consult reference materials, including beginning dictionaries, to check and correct spellings.

Vocabulary

In grade 2, students use a repertoire of strategies for dealing with unknown words. They can analyze the word itself, consider how it is used, consult reference materials, use the components of a compound word as clues to the word's meaning, or employ some combination of these strategies to determine or clarify word meanings. They figure out which meaning of a multiple-meaning word is most likely intended in a particular circumstance, and they differentiate among the connotations of related verbs and adjectives. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly.

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - identifying its base word when it has affixes (e.g., *happiness, finally, grimy, busily*)
   - determining how it is used in a sentence when reading, including whether it names or describes a thing or an action
   - consulting reference materials, including glossaries and beginning dictionaries, both print and digital
2. Determine the relevant meaning of multiple-meaning words by using context.
3. Explain the meaning of grade-appropriate compound words (e.g., *birdhouse, lighthouse, housefly, bookshelf, notebook, bookmark*).

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

4. Distinguish among related verbs (e.g., *toss, throw, hurl*) to gain a sense of their shadings of meaning.
5. Distinguish among related adjectives (e.g., *thin, slender, skinny, scrawny; irritated, mad, angry, furious*) to gain a sense of their shadings of meaning.

Acquiring vocabulary

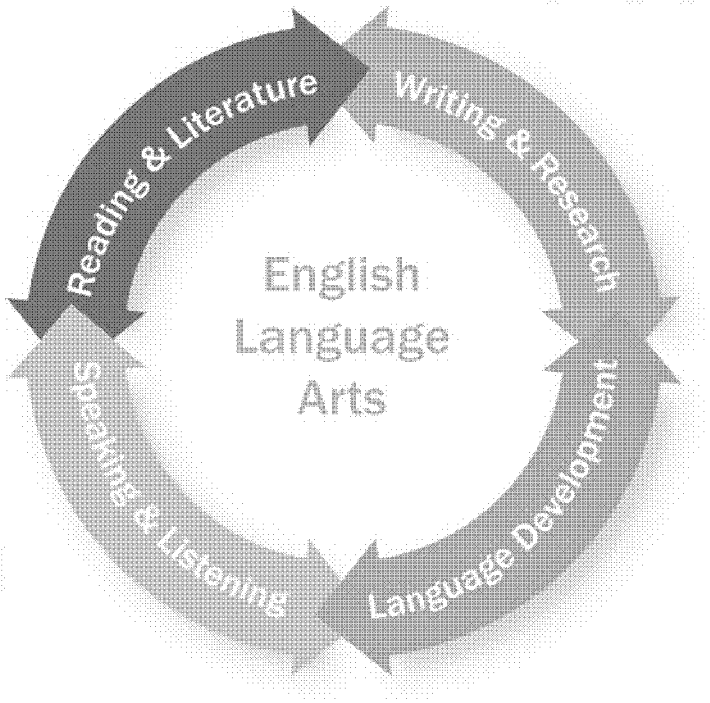
Core Standards — Students can and do:

6. Acquire and use new vocabulary taught directly and gained through reading and conversations.

CONFIDENTIAL

English Language Arts

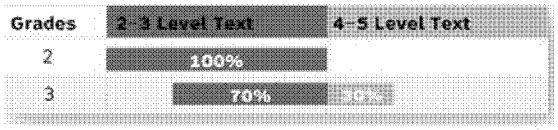
Grade 3



Appendix B2: Draft Standards in ELA and Mathematics

Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grade



While advancing through the grades, students must engage with texts of steadily increasing complexity.

- **In grade 3**, students focus on reading texts in the 2–3 grade band level text (70 percent) independently and are introduced to texts in the 4–5 grade band level as "stretch" texts (30 percent), which will likely require scaffolding.

Determining Text Complexity for Grades 2–3

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers' professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts[13]	Quantitative Measures of Texts
• *Structure:* Explicit, simple, conventional; simple graphic representations are supplementary to meaning; texts are relatively short • *Purpose:* Single; explicitly stated • *Style and Language:* Familiar, accessible, plain; few literary devices; mostly clear, everyday language; limited use of Tier 2 and 3 words and figurative language • *Richness:* A few ideas/concepts; concrete; low information density • *Relationships:* A few connections; explicit • *Knowledge Demands:* Ability to handle simple themes and fantastical elements as well as draw upon common, everyday experiences; general background knowledge and familiarity with genre conventions required; some everyday and general content knowledge	A study is underway with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences as well as their interests, motivations, and maturity level.	

[13] Adapted from ACT, Inc., (2005); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for Grade 3

Narratives	Drama	Poetry	Informational Text
At this level, includes children's adventure stories, biographies, folktales, legends, fables, fantasy, realistic fiction, and myth.	*At this level, includes staged dialogue, scenes, and brief familiar scenes.*	*At this level, includes nursery rhymes, and the subgenres of narrative poems, limericks, and free verse.*	*At this level, includes books about science, history, and the arts and other nonfiction materials.*

Illustrative Texts for Narratives, Drama, and Poetry[14]

My Father's Dragon by Ruth Stiles Gannett, illustrated by Ruth Chrisman Gannett (1948)

Sarah, Plain and Tall by Patricia MacLachlan (1985)

The One-Eyed Giant (Book One of Tales from the Odyssey) by Mary Pope Osborne (2002)

"Knoxville, Tennessee" by Nikki Giovanni (1968)

"Eating While Reading" by Gary Soto (1995)

Read Alouds:

"How the Camel Got His Hump" in *Just So Stories* by Rudyard Kipling (1902)

Illustrative Informational Text

A Medieval Feast by Aliki (1983)

So You Want to Be President? by Judith St.George, illustrated by David Small (2000)

Bat Loves the Night by Nicola Davies, illustrated by Sarah Fox-Davies (2008)

Moonshot: The Flight of Apollo 11 by Brian Floca (2009)

[14] See Appendix B for other texts illustrative of Grades 2-3 text complexity.

Appendix B2: Draft Standards in ELA and Mathematics

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Retell what the text says explicitly and make inferences required to understand the text.
2. Identify lessons or topics of the text and the key details that support them.
3. Describe in detail a specific character, event, or topic in the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. ask and answer clarifying questions (e.g., how, why, where, when, who, and what) concerning specific details in the text and refer explicitly to parts of a text to answer these questions
b. identify or infer the moral or lesson in well-known stories, fables, folktales, or myths
c. describe how major events in a story often lead from problem to solution
d. examine a specific incident in a story, narrative, or drama in depth, and establish when, where, and why it occurs
e. describe characters based upon what they say and do

Informational Text

a. accurately restate key information provided by the text
b. ask and answer clarifying questions (e.g., how, why, and what) concerning specific details in the text and refer explicitly to parts of a text to answer these questions
c. identify the main idea and supporting details and facts in a text
d. explain the topic of each paragraph in a multi-paragraph text
e. identify specific events in historical or scientific texts and discuss what happened, as well as where, when, and why it happened, according to facts taken from the text

Reading Foundations

Phonics and Word Recognition

1. Students know and apply grade-level phonics and word analysis skills in decoding words.
   a. identify and know the meaning of the most common prefixes and derivational suffixes (e.g., *un-*, *re-*, *mis-*, *-ful*, *-tion*, *-able*)
   b. decode regularly spelled single-syllable and multi-syllable words (e.g., *vocabulary*, *refrigerator*, *terrible*, *frightening*)
   c. read grade-appropriate irregularly spelled words by sight
   d. use phonics and word analysis to identify visually new words when reading

Observing craft and structure

Core Standards — Students can and do:

4. Explain the meanings of words and phrases as they are used in the text.
5. Gain familiarity with different ways of presenting stories and information in text.
6. Compare and contrast different versions of the same story or informational texts on the same subject.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. recognize sensory details and how they are used to describe events, feelings, and objects
b. describe the different ways poets use rhyme, rhythm, and sensory images to convey a topic or message
c. identify repetitions in phrases, refrains, or sounds in poems and songs
d. describe story elements, including characters, setting, the problem, and how it is resolved
e. discuss stories written by the same author about similar characters or compare different versions of similar well-known tales and myths from various cultures

Informational Text

a. locate key words, facts, or other details using features of texts (e.g., captions, headings, glossaries, indexes, electronic menus, and icons)
b. distinguish between writing that is based on real events and writing that is based on fantasy or fictional events
c. combine information from two different parts of a text and identify how they are related (e.g., chronology, causation)
d. after reading two passages on the same subject, combine the information to more fully describe a topic

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Locate and use information from graphs, illustrations, and electronic sources.
8. Identify and understand words and phrases that indicate logical relationships.
9. Identify who is telling the story or providing information at any given point in the text.

Reading Foundations, continued

Developing Fluency

2. Students read with sufficient accuracy and fluency to support comprehension.
   a. demonstrate increased accuracy, fluency, and expression on successive readings of a text
   b. use context to confirm or self-correct word recognition and understanding, rereading as necessary
   c. read at least 20 minutes each day, in school or out

Appendix B2: Draft Standards in ELA and Mathematics

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. efficiently navigate stories in print and electronic text and explain how images and illustrations connect to and clarify the content
b. identify who is telling the story or who is speaking in a drama

Informational Text

a. use information from visual elements of print and electronic texts (e.g., graphs, maps, charts, illustrations, photographs, diagrams) and explain how they help a reader understand the text
b. identify words (e.g., *such as*, *because*, *therefore*, *in order to*, *since*) that logically connect ideas in sentences and paragraphs

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding text.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and opinions that communicate to a familiar, known audience.

Conducting research

Core Standards — Students can and do:

2. Gather information from experiences or provided text sources.

Revising writing

Core Standards — Students can and do:

3. With specific guidance, strengthen writing through revision.

Using tools and technology

Core Standards — Students can and do:

4. Gain familiarity with technology and other tools to produce, revise, and edit writing.

Standards — Students can and do (by key text type):[15]

Narratives

a. set the time, indicate a location, introduce characters, or enter immediately into the story line to engage the reader
b. recount a single, well-elaborated event or a sequence of events that unfold naturally using temporal words, phrases, and clauses
c. tell what the narrator thought or felt
d. develop a focus, provide pacing, and include only relevant information
e. develop a character through the description of external behavior
f. provide descriptive details
g. employ dialogue and other narrative strategies
h. provide a satisfying conclusion that is reflective and/or that effectively ties up loose ends

Informative and Explanatory Texts

a. produce an introduction that names the topic and provides at least one general detail about it
b. create an organizational structure that presents similar information together, frequently patterned after chapter book headings or picture books
c. use adequate, relevant, and specific facts and definitions to develop points
d. logically categorize details and facts drawn from personal experience and other sources
e. use linking words, such as *also*, *another*, *and*, and *more*, to connect ideas within categories of information, and use headers to signal groupings
f. include only appropriate information
g. include a concluding sentence or section

Arguments (opinions)

a. introduce the topic or book(s) directly, and attempt to capture the reader's interest
b. state an opinion relative to the topic (e.g., *This is a good book* or *John is a good friend*)
c. provide facts and details to support the opinion
d. create a list-like organizing structure that provides reasons for the opinion
e. use appropriate words to link and organize opinions and reason(s) (e.g., *because*, *another*, *and*, *also*)
f. refer to the text(s) when writing about literature
g. provide a concluding statement, reflection, and/or recommendation

[15] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

Appendix B2: Draft Standards in ELA and Mathematics

Speaking and Listening Standards

Listening critically and participating productively

Core Standards — Students can and do:

1. Participate productively in small groups and as a class, engaging in a series of oral exchanges about texts and topics.
2. Sustain concentration on information presented orally, visually, or multi-modally and confirm understanding by paraphrasing the information.

Standards — Students can and do (by key communication type):

Classroom discussions and participating productively

a. engage in conversations on familiar topics
b. paraphrase the key information or ideas of others presented orally or through other media
c. inquire about oral or visual presentations to deepen understanding or clarify comprehension
d. link additions to conversation to the previous remarks of others
e. participate productively by listening politely to the ideas of others, taking turns speaking, and extending their ideas in light of discussions

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Share experiences and ideas, thinking about the needs of their listeners.
4. Speak audibly and clearly at an understandable pace.

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. recount stories or experiences with descriptive details by answering who, what, where, when, how, and why questions about them
b. report on a topic, including appropriate facts and details
c. use appropriate tone to express ideas, feelings, and needs clearly
d. recite or read aloud poems, rhymes, songs, and stories, speaking clearly at an understandable pace

Language Development Standards

Conventions

By grade 3, students have learned the foundations of written and spoken language, including letter, word, and sentence formation and crucial forms of punctuation. They ensure agreement between subject and verb and between pronoun and antecedent in simple situations. Students use quotation marks to indicate dialogue. They know most of the conventions of spelling and consult references to look up words when they still have difficulty. They use precise everyday language to describe and begin to consider the effects of word choice in writing and speaking.

Key Terms: subject-verb and pronoun-antecedent agreement, comma splice, fragment, run-on, quotation mark

Conventions of language and writing

Core Standards — Students can and do:

1. Group related ideas into a paragraph.

Grammar and usage

Core Standards — Students can and do:

2. Generate complete sentences, avoiding fragments, comma splices, and run-ons.*
3. Ensure subject-verb and pronoun-antecedent agreement.*

Mechanics

Core Standards — Students can and do:

4. Use quotation marks in dialogue.
5. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing regular words.
6. Consult reference materials, including dictionaries, to check and correct spellings.

Word choice and style

Core Standards — Students can and do:

7. Use precise everyday language.
8. Choose words for effect.*[16]

[16] Conventions standards noted with an asterisk (*) need to be revisited by students in subsequent grades. See Appendix A for a full listing.

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word—as compared to simply a definition. In grade 3, students use their repertoire of strategies to determine and clarify the meaning of unknown and multiple-meaning words. They know that words are sometimes used in nonliteral ways and can use that knowledge to help them understand common idioms. They learn and can paraphrase many common idioms and sayings. They recognize that words have nuances in meaning and rely on context and background knowledge to sort among related words that describe abstract concepts. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly.

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - using prefixes and suffixes when it is a multimorpheme word (e.g., *thoughtless*, *recycle*, *unforgettable*)
   - determining how it is used in a sentence when reading
   - consulting reference materials, including glossaries and dictionaries, both print and digital
2. Determine the meaning of multiple-meaning words by using context.
3. Distinguish between literal and nonliteral uses of language.
4. Paraphrase the meaning of common idioms and sayings.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

5. Distinguish among related words that describe states of mind, degrees of certainty, or other abstract concepts (e.g., *knew*, *believed*, *suspected*, *heard*, *wondered*).

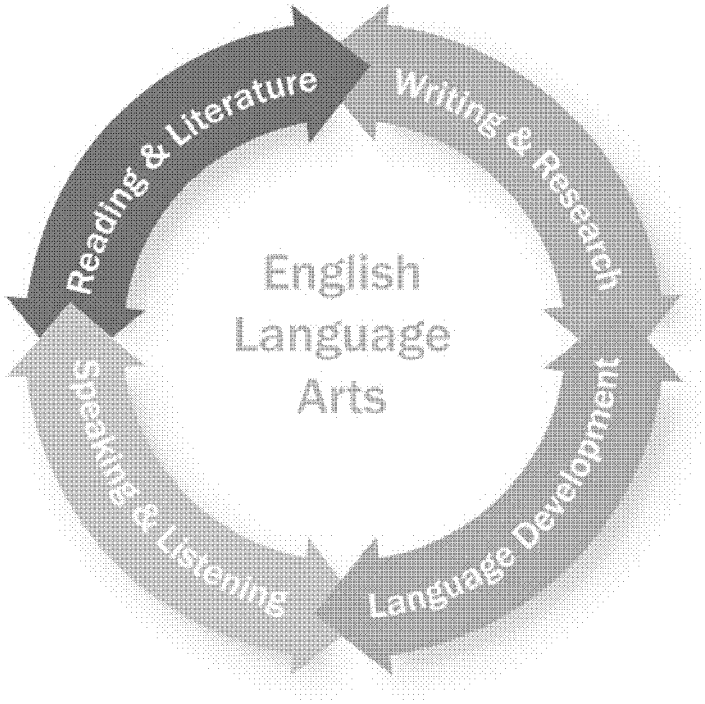
Acquiring vocabulary

Core Standards — Students can and do:

6. Acquire and use new vocabulary taught directly and gained through reading and conversations.

English Language Arts

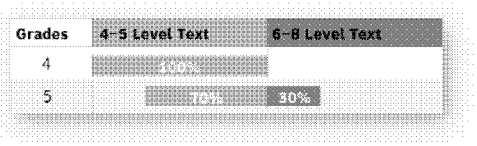
Grades 4–5



Appendix B2: Draft Standards in ELA and Mathematics

Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grade



While advancing through grades 4–5, students must engage with texts of steadily increasing complexity.

- **In grade 4**, students focus on reading texts in the 4–5 grade band level with scaffolding likely required for texts at the high end of the range.
- **In grade 5**, students focus on reading in the 4–5 grade band level (70 percent) independently and are introduced to texts in the 6–8 grade band level as "stretch" texts (30 percent), which will likely require scaffolding.

Determining Text Complexity for Grades 4–5[17]

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers' professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts	Quantitative Measures of Texts
• *Structure:* Largely explicit and direct; graphic representations are supplementary to meaning; texts are of increasing length • *Purpose:* Single or twofold; clearly indicated • *Style and Language:* Moderately accessible; some literary devices; some everyday language; some use of Tier 2 and Tier 3 words and figurative language • *Richness:* Some ideas/concepts; mostly concrete; moderate information density • *Relationships:* Some connections; largely explicit • *Knowledge Demands:* Ability to handle fairly simple themes, consider a perspective somewhat different from one's own, and understand unfamiliar experiences; general background knowledge and familiarity with genre conventions required; some general and discipline-specific content knowledge	A study is underway with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences as well as their interests, motivations, and maturity level.	

[17] Adapted from ACT, Inc., (2005); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for Grades 4–5

Narratives	Drama	Poetry	Informational Text
At this level, includes children's adventure stories, biographies, folktales, legends, fables, fantasy, realistic fiction, and myth.	*At this level, includes staged dialogue and brief familiar scenes.*	*At this level, includes nursery rhymes, and the subgenres of narrative poems, limericks, and free verse.*	*At this level, includes books about science, history, and the arts and other nonfiction materials and digital media sources on a range of topics.*

Illustrative Texts for Narratives, Drama, and Poetry[18]	Illustrative Informational Texts
Alice in Wonderland by Lewis Carroll (1865)	*Discovering Mars* by Melvin Berger (1992)
The Little Prince by Antoine de Saint-Exupery (1943)	*Hurricanes: Earth's Mightiest Storms* by Patricia Lauber (1996)
Bud, Not Buddy by Christopher Paul Curtis (1999)	"Ancient Mound Builders" by E. Barrie Kavash from *Cobblestone* (2003)
"The Echoing Green" from *Songs of Innocence* by William Blake (1789)	*Volcanoes* by Seymour Simon (2006)
"Casey at the Bat" by Ernest Lawrence Thayer (1888)	"Kenya's Long Dry Season" by Nellie Gonzalez Cutler from *Time for Kids* (2009)
"Words Free As Confetti" by Pat Mora (1996)	"Seeing Eye to Eye" by Leslie Hall from *National Geographic Explorer* (2009)
Where the Mountain Meets the Moon by Grace Lin (2009)	

[18] See Appendix B for other texts illustrative of Grades 4–5 text complexity.

Appendix B2: Draft Standards in ELA and Mathematics

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Determine what the text says explicitly and make inferences required for understanding; explain how those inferences stem from the text.
2. Articulate the main ideas and themes of the text and provide a summary that captures the key supporting details.
3. Describe in detail two or more characters, events, or topics in the text and explain how they are related to one another.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. determine the theme of a story or drama, basing the understanding of theme on how characters adapt or change in response to the challenges posed in the plot
b. summarize accurately the significant events of a play or narrative in chronological order, describing where, when, why, and how specific actions take place
c. describe characters based on evidence from their thoughts, words, deeds, and interactions with others
d. describe the setting in detail, drawing on evidence of the time, place, and other cues
e. determine the theme of a poem, basing the understanding of theme on the key observations, images, or statements in a poem

Informational Text

a. outline the main and supporting ideas in the text and provide an accurate summary
b. identify the topic sentence and gist of each paragraph in a multi-paragraph text
c. describe related events in a history text or related topics in a science text and explain the relationships between the events or topics

Observing craft and structure

Core Standards — Students can and do:

4. Explain the meanings of words and phrases in the text, distinguishing literal and figurative uses.
5. Comprehend literature and information presented in a range of structures.
6. Compare and contrast texts written on the same topic or theme and explain how they are different and similar.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. describe the sensory details in texts and distinguish the use of literal versus figurative language
b. observe and explain how words with similar meanings can have different connotations
c. identify the meaning of figurative phrases and culturally significant characters found in mythology that are integral to understanding other works of literature and texts (e.g., *Herculean*, *Pandora's box*)
d. identify how narratives and plays are structured to describe the progress of characters through a series of events and challenges

e. identify rhymes and other repetitions of sounds that supply rhythm and pattern in poems and narrative prose
f. compare a narrative or a play with a presentation in another format, such as film, stage, or interactive text, and note what is surprising or different about the alternative version
g. compare works of literature on the same topic or with a similar theme

Informational Text

a. explain the meaning of key words and terms as they are used in the text
b. understand information drawn from a variety of texts with different structures, such as chronological, compare-and-contrast, or as a chain of causes and effects
c. identify and use text features (e.g., bold print, key words, topic sentences, hyperlinks, electronic menus, and icons) to locate information quickly and aid in comprehension
d. compare and contrast related accounts on the same or similar topics by different authors, by analyzing their content and perspectives

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Explain and use information presented graphically or visually in print, videos, or electronic texts.
8. Outline the information or evidence used to support an explanation or argument, determining which points support which key statements.
9. Determine the point of view or purpose that guides how events or ideas are described.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. identify the narrator of a story and explain how different stories are narrated from different perspectives
b. compare accounts of historical events and figures or natural phenomena with their depiction in a fictional work

Informational Text

a. explain how factual information presented graphically or visually (e.g., maps, charts, diagrams, timelines, animations, and other interactive visual elements) aids in the comprehension of print and electronic texts
b. explain how authors support their specific claims with evidence, including which evidence supports which claims
c. determine the author's purpose and how that is reflected in the description of the events and ideas

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding texts.

Appendix B2: Draft Standards in ELA and Mathematics

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and arguments that demonstrate an awareness of audiences that are familiar and known to the student.

Conducting research

Core Standards — Students can and do:

2. Perform short, focused research tasks that build knowledge by exploring aspects of a single topic.
3. Gather information from experience, as well as print and digital resources.
4. Determine the accuracy and relevance of the information gathered to answer specific questions.
5. Restate information from source materials in one's own words, through summary or paraphrase.
6. Provide basic bibliographic information for print and digital sources.

Revising writing

Core Standards — Students can and do:

7. With guidance and support from peers and adults, strengthen writing through revision, editing, or beginning again to maintain a clear focus throughout.

Using tools and technology

Core Standards — Students can and do:

8. Use technology and other tools to produce, revise, and edit writing.

Developing proficiency in a range of writing

9. Create writing over extended timeframes (time for reflection and revision) and shorter timeframes (a single sitting or a day or two), responding to specific sources.

   Focus by grade level:

   Grade 4: Describing the content of literary or informational sources at the 4-5 grade band level of text complexity and content
   Grade 5: Comparing the contents of literary or informational sources at the 4-5 grade band level of complexity and content

Standards — Students can and do (by key text type):[19]

Narratives

a. orient the reader by establishing a situation, introducing characters, setting, and location, or by backfilling information after entering immediately into the storyline
b. create an organizing structure in which events are logically or causally sequenced
c. in producing a story, create a plot with an initiating event, complicating action, a climax, and a resolution
d. use a variety of temporal words, phrases, and clauses to signal sequence
e. use concrete and sensory details to develop narrative elements
f. develop the narrative using techniques such as dialogue, pacing, and reporting the narrator's thoughts
g. show both external behaviors and the internal responses of characters to events
h. provide closure and a realistic outcome of the narrative's events

Informative and Explanatory Texts

a. state the topic clearly and provide a general observation and focus
b. develop the subject using relevant facts, concrete details, quotations, or other information and examples
c. group related information logically in basic structures (paragraphs, sections) and provide headings or illustrations when useful
d. employ specialized vocabulary and a formal, objective style when appropriate
e. use appropriate links to join ideas
f. include only relevant appropriate information to demonstrate focus
g. provide a conclusion related to the information or explanation offered

Arguments (opinions)

a. introduce an opinion about a concrete issue or topic
b. support opinions with relevant reasons
c. support reasons with specific details
d. link the reasons together using words, phrases, and clauses (e.g., *because*, *since*)
e. adopt a relatively formal style for sharing and defending an opinion when appropriate to the discipline or context
f. provide a concluding statement or section that offers reflections, restatement, or recommendations consistent with the opinion presented

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively one on one, in small groups, and as a whole class, joining in discussions and making relevant points about what they have read, heard, or written.
2. Sustain concentration on information presented orally, visually, or multi-modally and confirm understanding by summarizing the main ideas and supporting details.

Standards — Students can and do (by key communication type):

[19] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

Appendix B2: Draft Standards in ELA and Mathematics

Classroom discussions and collaboration

a. come to discussions having read required material and, in conversation, build upon background knowledge from that material and other information known about the topic
b. demonstrate understanding of the content and ideas presented or discussed by distilling them into an accurate summary
c. ask questions to clarify or follow up on ideas or information presented orally or through other media
d. respond to questions and make comments that contribute to the topic and ideas of previous speakers
e. explain information presented graphically or visually in conjunction with other information presented orally
f. engage productively and respectfully with others during discussions, including listening actively, gaining the floor respectfully, and qualifying or justifying what they think after listening to others' questions or accounts

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Share experiences, opinions or other information, choosing material that is relevant to the topic and to the listeners.
4. Speak audibly and clearly at an appropriate and understandable pace, using formal English when indicated or appropriate (e.g., presenting ideas versus class discussion).

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. speak coherently about events, topics, or texts that focus and organize ideas in a logical sequence and include facts, details, or other information that support the main ideas
b. use appropriate volume, phrasing, and pace for clarity
c. read aloud prose and poetry, with appropriate emotion and fidelity to the text

Language Development Standards

Conventions

In grades 4–5, students heighten their ability to situate and describe using language that is increasingly precise and vivid. They form and use verbs of various tenses to locate people, actions, and events in time, and they correctly use adjectives and adverbs to modify. Students begin to gain control of frequently confused words (e.g., *effect*, *affect*) and edit writing to remove language that is not idiomatic. Their mastery of capitalization is complete. They use punctuation to separate items in a series and a comma to distinguish an introductory element from the main part of the sentence. Students mark titles in conventional ways. They understand how to quote and use quotation marks. Their spelling is conventional. Their language is increasingly topic specific, precise, and varied, and they manipulate sentence structure for effect.

Key Terms: adjective; adverb; interjection; preposition; simple, progressive, and perfect tense

Conventions of language and writing

Core Standards — Students can and do:

1. Maintain the focus of a paragraph on a topic through structural elements such as main ideas, supporting sentences, and transitions.

Grammar and usage

Core Standards — Students can and do:

2. Form and use the simple (e.g., *I walked*, *I walk*, *I will walk*), progressive (e.g., *I was walking*, *I am walking*, *I will be walking*) and the perfect (e.g., *I had walked*, *I have walked*, *I will have walked*) verb tenses.
3. Recognize and correct inappropriate shifts in verb tense.*
4. Form and choose between adjectives and adverbs (including comparative and superlative forms), placing them appropriately within the sentence.*
5. Correctly use frequently confused words.*
6. Use idiomatic language.*

Mechanics

Core Standards — Students can and do:

7. Capitalize the first word in quotations as appropriate and other important words, such as section headers.
8. Use punctuation to separate items in a series.*
9. Use a comma to separate an introductory element from the rest of the sentence.
10. Use underlining, quotation marks, or italics to indicate titles of works.
11. Use quotation marks to mark direct speech and quotations from a text.
12. Spell grade-appropriate words correctly, consulting references as needed.*

Word choice and style

Core Standards — Students can and do:

13. Use specialized, topic-specific language to convey ideas precisely.*
14. Use figurative language to create images or make comparisons and connections between people, objects, or ideas.*
15. Use punctuation for effect.*
16. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.*[20]

Focus by Grade-Level
Grade 4: Distinguish one idea or thing from another (Conventions Standards #'s1-3, #8, #9, #11)
Grade 5: Word choice (Conventions Standards #'s 4-6, #13, #14)

[20] Conventions standards noted with an asterisk (*) need to be revisited by students in subsequent grades. See Appendix A for a complete listing.

Appendix B2: Draft Standards in ELA and Mathematics

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word—as compared to simply a definition. In grades 4–5, students are capable of selecting among a wide range of strategies—analyzing the word itself, using localized context clues (particularly at the sentence level), and consulting reference materials—to determine and clarify the meaning of unknown and multiple-meaning words. They develop the habit of verifying their inferences of word meanings. They are able to interpret simple figurative language found in what they read. They learn and can paraphrase many common idioms, proverbs, and adages. They make distinctions among words based on connotation. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly. This includes a focus on "Tier 2" words and phrases (those that commonly appear in writing but not in spoken language), "Tier 3" words and phrases (those that are specific and important to particular disciplines).[21]

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - analyzing the word's sounds, spelling, and meaningful word parts
   - using semantic clues in sentences, such as definitions, examples, or restatements included within the text
   - using syntactic clues, such as using its position within the sentence as a guide to whether it represents a thing or an action
   - consulting reference materials, including glossaries, dictionaries, and thesauruses, both print and digital
2. Determine the relevant meaning of multiple-meaning words by using context.
3. Verify the preliminary determination of a word's meaning (e.g., by checking the inferred meaning in context or by looking up the word in a dictionary).
4. Interpret figurative language, including simple similes and metaphors.
5. Paraphrase the meaning of common idioms, adages, and proverbs.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

6. Distinguish a word from other words with similar but not identical meanings (synonyms).

Acquiring vocabulary

Core Standards — Students can and do:

7. Acquire and use a grade-appropriate vocabulary of Tier 2[22] words taught directly and gained through reading.
8. Acquire and use a grade-appropriate vocabulary of Tier 3 words taught directly and gained through reading.
9. Know and use words and phrases that signal contrast, addition, or other logical relationships (e.g., *however*, *although*, *nevertheless*, *similarly*, *moreover*, *in addition*).

[21] Beck I. L., McKeown, M.G. & Kucan, L. (2002). *Bringing Words to Life: Robust Vocabulary Instruction*, New York: Guilford Press

Grade 4 English Language Arts: Focus for Instruction

Reading and Literature

In grade 4, students apply the reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read text at the 4-5 grade band level independently, with scaffolding likely required for texts at the high end of the range.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 100% text at the 4-5 grade band level

Writing and Research

In grade 4, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by describing the contents of literary or informational sources at the 4-5 grade band level of complexity and content

Speaking and Listening

In grade 4, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentation of ideas and information

Language Development

In grade 4, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Distinguish one idea or thing from another:
  - Maintain the focus of a paragraph on a topic… (Conventions Standard #1)
  - Form and use the simple, progressive and perfect verb tenses … (Conventions Standard #2)
  - Recognize and correct inappropriate shifts in verb tense. (Conventions Standard #3)
  - Use punctuation to separate items in a series … (Conventions Standard #8)
  - Use a comma to separate an introductory element … (Conventions Standard #9)
  - Use quotation marks to mark direct speech and quotations … (Conventions Standard #11)

Appendix B2: Draft Standards in ELA and Mathematics

Grade 5 English Language Arts: Focus for Instruction

Reading and Literature

In grade 5, students apply the reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read text at the 4-5 grade band level independently and are introduced to 6-8 grade band "stretch" texts, which will likely require scaffolding.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 70% text at the 4-5 grade band level, 30% text at the 6-8 grade band level

Writing and Research

In grade 5, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by comparing the contents of literary or informational sources at the 4-5 grade band level of complexity and content.

Speaking and Listening

In grade 5, students apply the speaking and listening standards in different contexts.

- Speaking and listening Standards applied in different contexts: classroom discussion and collaboration as well as in presentation of ideas and information.

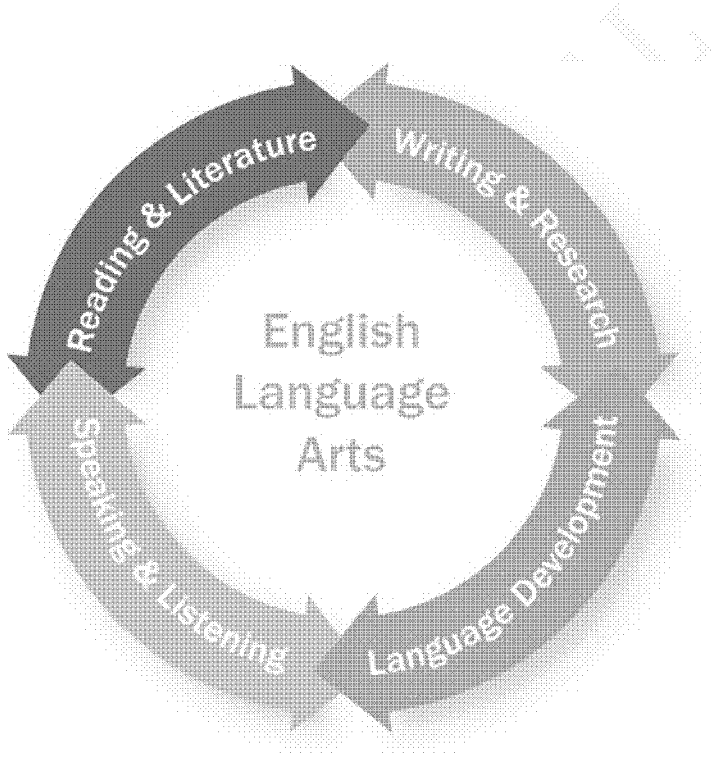
Language Development

In grade 5, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to both reading, writing, speaking and listening
- **Grade-specific conventions focus:** Word choice
  - Form and choose between adjectives and adverbs. (Conventions Standard #4)
  - Correctly use frequently confused words. (Conventions Standard #5)
  - Use idiomatic language. (Conventions Standard #6)
  - Use specialized, topic specific language to convey ideas precisely. (Conventions Standard #13)
  - Use figurative language to create images … (Conventions Standard #14)

English Language Arts

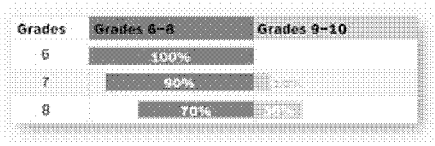
Grades 6–8



Appendix B2: Draft Standards in ELA and Mathematics

Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grade



While advancing through grades 6–8, students must engage with texts of steadily increasing complexity:

- **In grade 6**, students focus on reading texts in the 6–8 grade band level with scaffolding likely required for texts at the high end of the range.
- **In grade 7**, students focus on reading texts in the 6–8 grade band level (90 percent) independently and are introduced to texts in the 9–10 grade band level as "stretch" texts (10 percent), which will likely require scaffolding.
- **In grade 8**, students focus on reading texts in the 6–8 grade band level (70 percent) independently as well as sustained practice with texts in the 9–10 grade band level as "stretch" texts (30 percent), which will likely require scaffolding.

Determining Text Complexity for Grades 6–8[23]

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers' professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts	Quantitative Measures of Texts
• *Structure:* Largely implicit and subtle; graphic representations are essential to meaning; texts are of increasing length • *Purpose:* Single or multiple; subtly stated • *Style and Language:* Moderately demanding; several literary devices; consistent use of Tier 2 and 3 words and figurative language • *Richness:* Several ideas/concepts; mostly abstract; moderate information density • *Relationships:* Several connections; largely implicit • *Knowledge Demands:* Ability to handle fairly challenging themes, consider multiple perspectives, and understand unfamiliar experiences; cultural and historical knowledge useful for understanding characters, settings, and allusions; some discipline-specific content knowledge	A study is underway with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences as well as their interests, motivations, and maturity level.	

[23] Adapted from ACT, Inc., (2005); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for Grades 6–8

Narratives	Drama	Poetry	Informational Text
At this level, includes the subgenres of adventure stories, biographies, memoirs, historical fiction, mysteries, folktales, legends, fables, tall tales, myths, fantasy, science fiction, realistic fiction, and graphic novels.	*At this level, includes one-act and multi-act plays both as text and film.*	*At this level, includes the subgenres of narrative poems, lyrical poems, free verse, odes, ballads, and epics.*	*At this level, includes such subgenres as exposition and argument in the form of essays, opinion pieces, speeches, opinion pieces as well as other documents and digital media sources on a range of topics.*

Illustrative Texts for Narratives, Drama, and Poetry[24]	Illustrative Informational Texts
Little Women by Louisa May Alcott (1869)	*Preamble and First Amendment to the United States Constitution* by United States (1787, 1791) **
The Adventures of Tom Sawyer by Mark Twain (1876)	*Narrative of the Life of Frederick Douglass an American Slave* by Frederick Douglass (1845)
A Wrinkle in Time by Madeline L'Engle (1962)	"Gettysburg Address"** by Abraham Lincoln (1863)
The Dark Is Rising by Susan Cooper (1973)	"Blood, Toil, Tears and Sweat" by Winston Churchill (1940)
Black Ships before Troy: The Story of the Iliad by Rosemary Sutcliff (1993)	*Travels with Charley: In Search of America* by John Steinbeck (1962)
A Midsummer Night's Dream by William Shakespeare (1596)	*I Know Why the Caged Bird Sings* by Maya Angelou (1969)
"Oh Captain, My Captain" by Walt Whitman (1865)	
"Stopping by a Wood on a Snowy Evening" by Robert Frost (1923)	
"I, Too" by Langston Hughes (1925)	

Seminal historical texts that all students are expected to read

[24] See Appendix B for other texts illustrative of Grades 6-8 text complexity.

Appendix B2: Draft Standards in ELA and Mathematics

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Read the text closely to determine what the text says explicitly and to make logical inferences from it; cite text evidence to support understanding in discussion and in writing.
2. Articulate the text's main ideas and themes and provide a summary that captures the key supporting details, without taking a position or expressing an opinion.
3. Explain in detail how events, ideas, and characters unfold in the text and interact with one another.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. infer themes when they are not explicitly stated and provide evidence on which those inferences are based
b. analyze the development of the narrative, describing how particular incidents advance or foreshadow the plot
c. recognize how the setting unfolds over the course of the text and describe its significance to the work
d. build on an author's explicit descriptions and other evidence to draw reasonable conclusions about characters and how they interact, change, and influence the central events
e. describe how a play unfolds and how particular lines of dialogue propel the action, reveal aspects of a character, or provoke a decision
f. analyze how patterns of imagery in a poem contribute to its overall theme or meaning

Informational Text

a. summarize a text without expressing a personal opinion by drawing on the author's specific description of events or information
b. determine how key ideas or concepts build on one another to reveal an overarching theme or idea

Observing craft and structure

Core Standards — Students can and do:

4. Interpret the meanings of words and phrases, including connotative and figurative meanings, and explain how specific word choices shape the meaning of the text.
5. Explain the text's structure, including how specific sentences, paragraphs, and larger portions build on each other and contribute to the whole of the text.
6. Compare and contrast how two or more texts written on similar topics or themes differ in their focus and key details.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. analyze how the author's choice of specific words or details contributes to the understanding of events and characters or to the tone of a narrative
b. trace the specific comparisons made by similes, metaphors, and analogies and explain how they contribute to the meaning of the text
c. compare similar ideas and themes as well as character types in myths, folktales, and legends from different cultures

d. analyze the impact of line breaks and stanzas on the meaning of a poem and acts, scenes, and stage directions on the meaning of a drama
e. compare the events, characters, ideas, and themes in texts written by the same author or on similar topics or themes

Informational Text

a. interpret the connotative meaning of closely related words and phrases as they are used in the text (e.g., *angry* versus *irate*)
b. describe how an author organizes the explanation or argument, as well as the ways in which the text's structure, language, and examples support its purpose
c. examine the structure of a Web site or other electronic text and describe how it organizes information and links to additional sources

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Interpret information presented graphically or visually in print, videos, or electronic texts and explain how this information clarifies and contributes to the text.
8. Analyze the structure and content of an argument, including its main claims or conclusions, supporting premises, and evidence.
9. Determine the point of view or purpose represented in the text, assessing how it shapes the content.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. compare the points of view from which different novels and poems are told, as well as the viewpoints of different characters in a drama
b. compare the fictional portrayal of a time, place, or character to historical sources from the period to determine which historical details have been emphasized, deleted, or changed in the fictional portrayal

Informational Text

a. interpret factual and quantitative data presented in diverse formats (including maps, charts, and diagrams as well as electronic media) and explain how this information clarifies or contributes to the text
b. distinguish between fact, opinion, and reasoned judgment presented in essays, speeches, and critiques
c. evaluate the strength of an argument's premises and specific claims as well as the degree to which each is supported by evidence
d. compare and contrast the viewpoints and use of evidence of two different authors writing about the same topic

Developing habits for reading complex text

Core Standards — Students can and do:

Appendix B2: Draft Standards in ELA and Mathematics

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding texts.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write narratives, informative and explanatory texts, and arguments that match purpose to task and address familiar as well as somewhat distant audiences (e.g., mayor, readers of school or neighborhood newspaper).

Conducting research

Core Standards — Students can and do:

2. Perform short, focused research projects that demonstrate understanding of the material under investigation and generate additional related questions for research.
3. Gather information independently using a variety of relevant print and digital resources.
4. Assess the credibility, reliability, consistency, and accuracy of the information and sources gathered.
5. Represent and cite accurately the data, conclusions, and opinions of others, quoting and paraphrasing them into one's own work while avoiding plagiarism.
6. Provide full bibliographic information for print and digital sources in a standard format and document quotations, paraphrases, and other information.

Revising writing

Core Standards — Students can and do:

7. With some guidance and support from peers and adults, strengthen writing through revising, editing, or beginning again to ensure logical organization, precision of word choice, and coherence.

Using tools and technology

Core Standards — Students can and do:

8. Use technology and other tools to produce, revise, and distribute writing, as well as interact online with others about writing, including responding to and providing feedback

Developing proficiency in a range of writing

9. Create writing over extended timeframes (time for reflection and revision) and shorter timeframes (a single sitting or a day or two), responding to specific sources.

Focus by grade level:

Grade 6: Conveying the main ideas and key details of literary or informational sources at the 6-8 grade band level of text complexity and content
Grade 7: Analyzing the contents of literary or informational sources at the 6-8 grade band level of complexity and content
Grade 8: Comparing or evaluating the contents of literary or informational sources at the 6-8 grade band level of complexity and content

Standards — Students can and do (by key text type):[25]

Narratives

a. orient the reader by establishing a situation, introducing characters, setting, and location, or by backfilling information after entering immediately into the storyline
b. create an organizing structure in which events are logically or causally sequenced
c. in producing a story, create a plot with well-structured episodes (e.g., initiating event, complicating action, resolution)
d. use a variety of temporal words, phrases, and clauses to convey sequence, to shift from one time frame to another, and to show the relationships among events
e. use relevant, specific details and literary devices, such as imagery and metaphor, purposefully to develop setting, plot, and character
f. use techniques such as pacing, dialogue, or foreshadowing to highlight the significance of events or create particular effects (e.g., tension or suspense)
g. show internal mental processes to develop complex characters and convey their needs, motives, and emotional responses
h. provide an engaging conclusion, such as a surprise ending, a reflection, or a conclusion that returns to the beginning

Informative and Explanatory Texts

a. establish the topic in an introduction that provides a sense of what's to follow
b. develop the subject through relevant and specific facts, concrete details, quotations, or other information and examples
c. organize specific information under broader concepts or categories and provide headings, figures, tables, or diagrams when useful
d. use factual, precise language and maintain a formal, objective style when appropriate
e. use strategies appropriate to informational and explanatory texts such as defining, classifying, comparing/contrasting, and cause/effect
f. use appropriate links to join ideas and create cohesion
g. provide only accurate and relevant information
h. provide a conclusion that follows logically from the information or explanation presented

Arguments

a. introduce a claim about a topic or concept
b. support claims with logical reasons
c. support reasons with detailed and relevant evidence

[25] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

Appendix B2: Draft Standards in ELA and Mathematics

d. signal the relationship between reasons, or between reasons and evidence, using words, phrases, and clauses (*e.g., another reason, such as, therefore, in addition*)
e. sustain an objective style and tone appropriate for making a case when appropriate to the discipline or context
f. include only relevant information and evidence in support of claims
g. provide a concluding statement or section that offers reflections, a restatement, or recommendations that follow from the argument

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively one on one, in small groups, and as a whole class, joining in discussions and remaining flexible and adaptable as participants.
2. Sustain concentration on information presented orally, visually, or multi-modally and confirm understanding by drawing well-supported inferences about the purpose and meaning of the information.

Standards — Students can and do (by key communication type):

Classroom discussions and collaboration

a. come to discussions having completed reading or other preparation in advance and draw on that material explicitly in discussions
b. determine a speaker's attitude or point of view toward a topic presented orally or through other media
c. ask questions to check understanding to clarify the main ideas and the supporting evidence of material presented orally or through other media
d. advance a discussion by answering questions precisely and sharing specific factual knowledge and observations supported by credible evidence
e. interpret information presented in visual and digital formats and explain how this data clarifies and contributes to a discussion or information presented orally
f. support productive teamwork by setting clear goals and deadlines, monitoring progress and participation of each team member, and taking different views into account and modifying own views when indicated in light of what others say

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Share experiences, opinions, and other information, gaining and maintaining the interest and response of listeners.
4. Use appropriate tone and phrasing for emphasis, demonstrating a growing command of formal English when indicated or appropriate (e.g., presenting ideas versus class discussion).

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. organize and present information about situations, topics, or texts that emphasize salient points and clarify and support claims and findings with pertinent and specific descriptions, facts, and examples in ways that are accessible and verifiable to listeners
b. use gesture, tone, phrasing, and pace for emphasis
c. incorporate visual displays and electronic media when helpful and in a manner that strengthens the presentation
d. perform dramatic readings of various prose and poetry speaking with clarity, fidelity, and responsiveness to the text, noting changes in the situation, mood, or tone of text

Language Development Standards

Conventions

In grades 6–8, students develop a firm command of sentence structure. They are able to form sentences of varying structures, place phrases and clauses properly within a sentence, and use a variety of coordinating and subordinating conjunctions to express relationships between sentence parts. Students have also mastered pronoun use, ensuring proper case, number, and person and avoiding vagueness. They understand and use verb voice and mood, and identify and correct inappropriate shifts in pronouns and verbs. Students set off nonrestrictive or parenthetical elements from the rest of the sentence with proper punctuation and use a comma before a coordinating conjunction in a compound sentence. They vary sentence patterns for effect and edit writing for redundancy and wordiness.

> Key Terms: conjunction; dash; nonrestrictive/parenthetical element; indicative, imperative, interrogative, conditional, and subjunctive mood; parentheses; phrase and clause; pronoun case, number, and person; simple, compound, complex, and compound-complex sentence; active and passive voice

Grammar and usage

Core Standards — Students can and do:

1. Form compound, complex, and compound-complex sentences.
2. Place phrases and clauses within a sentence, avoiding misplaced and dangling modifiers.*
3. Ensure that pronouns are in the proper case (subjective, objective, possessive).
4. Recognize and correct inappropriate shifts in pronoun number and person.*
5. Recognize and correct vague pronouns with unclear or ambiguous antecedents.*
6. Form and use verbs in the active and passive voice.
7. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.
8. Avoid inappropriate shifts in verb voice and mood.*

Mechanics

Core Standards — Students can and do:

9. Use punctuation to set off nonrestrictive/parenthetical elements with commas, parentheses, or dashes.*
10. Use a comma before a coordinating conjunction in a compound sentence.

Appendix B2: Draft Standards in ELA and Mathematics

Word choice and style

Core Standards — Students can and do:

11. Use verbs in the active and passive voice and in the conditional and subjunctive moods to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).
12. Vary sentence patterns for meaning, reader/listener interest, and style.*
13. Choose words and phrases to express ideas precisely and concisely, avoiding wordiness and redundancy.*[26]

Grade-Level Focus
Focus by Grade-Level
Grade 6: Pronouns (Conventions Standards #s 3-5)
Grade 7: Sentence structure (Conventions Standards #1, #2, #12)
Grade 8: Verb voice and mood (Conventions Standards #s 6-8, #11)

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word—as compared to simply a definition. In grades 6–8, students continue to make use of a range of strategies to determine and clarify the meaning of unknown and multiple-meaning words. This repertoire now includes considering the word's use in a broader context that includes the content of the paragraph in which the word appears and the overarching structure of the text. They habitually verify their inferences of word meanings. They interpret a variety of figurative language found in what they read. They make distinctions among words based on connotation. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly. This includes a continuing focus on "Tier 2" words and phrases (those that commonly appear in writing but not in spoken language), "Tier 3" words and phrases (those that are specific and important to particular disciplines).

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - using knowledge of roots, prefixes, and suffixes
   - using semantic clues, such as sentence and paragraph context as well as the organizational structure of the text (e.g., cause and effect, comparison and contrast)
   - using syntactic clues, such as using its position within the sentence as a guide to whether it is a subject, verb, or object
   - consulting reference materials, including glossaries, dictionaries, and thesauruses, both print and digital
2. Determine the relevant meaning of multiple-meaning words by using context.
3. Verify the preliminary determination of a word's meaning (e.g., by checking the inferred meaning in context or by looking up the word in a dictionary).
4. Interpret figurative language, including metaphors, similes, and idioms.

[26] Conventions standards noted with an asterisk (*) need to be revisited by students in subsequent grades. See Appendix A for a complete listing.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

5. Distinguish a word from other words with similar but not identical meanings (synonyms).

Acquiring vocabulary

Core Standards — Students can and do:

6. Acquire and use a grade-appropriate vocabulary of Tier 2 words taught directly and gained through reading.
7. Acquire and use a grade-appropriate vocabulary of Tier 3 words taught directly and gained through reading.

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Appendix B2: Draft Standards in ELA and Mathematics

Grade 6 English Language Arts: Focus for Instruction

Reading and Literature

In grade 6, students apply the reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read text at the 6-8 grade band level independently, with scaffolding likely required for texts at the high end of the range.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 100% text at the 6-8 grade band level

Writing and Research

In grade 6, students apply the writing standards to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter time frames, responding to specific sources by conveying the main ideas and key details of literary or informational sources at the 6-8 grade band level of complexity and content.

Speaking and Listening

In grade 6, students apply the core speaking and listening standards in different contexts.

- Speaking and listening Standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

Language Development

In grade 6, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions

- Vocabulary standards applied to both reading, writing, speaking and listening
- **Grade-specific conventions focus:** Pronouns
  - Ensure that pronouns are in the proper case… (Conventions Standard #3)
  - Recognize and correct inappropriate shifts… (Conventions Standard #4)
  - Recognize and correct vague pronouns… (Conventions Standard #5)

Grade 7 English Language Arts: Focus for Instruction

Reading and Literature

In grade 7, students apply the reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read text at the 6-8 grade band level independently and are introduced to 9-10 grade band level "stretch" texts, which will likely require scaffolding.

- Reading Standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 90% at the 6-8 grade band level, 10% at the 9-10 grade band level

Writing and Research

In grade 7, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by analyzing the contents of literary or informational sources at the 6-8th grade band level of complexity and content.

Speaking and Listening

In grade 7, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

Language Development

In grade 7, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Sentence structure
  - Form compound, complex… (Conventions Standard #1)
  - Place phrases and clauses… (Conventions Standard #2)
  - Vary sentence patterns… (Conventions Standard #12)

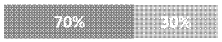
Appendix B2: Draft Standards in ELA and Mathematics

Grade 8 English Language Arts: Focus for Instruction

Reading and Literature

In grade 8, students apply the reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on reading text at the 6-8 grade band level independently as well as on sustained practice with 9-10 grade band level "stretch" texts, which may require scaffolding.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text



- **Text Complexity focus:** 70% at the 6-8 grade band level, 30% at the 9-10 grade band level

Writing and Research

In grade 8, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by analyzing the contents of literary or informational sources at the 6-8th grade band level of complexity and content.

Speaking and Listening

In grade 8, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

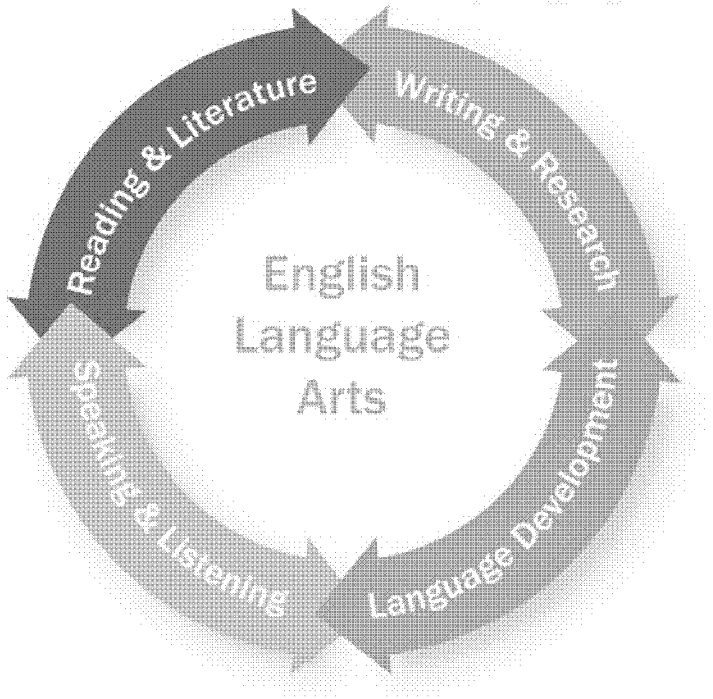
Language Development

In grade 8, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Verb voice and mood
  - Form and use verbs in the active and passive voice (Conventions Standard #6)
  - Form and use verbs in the indicative… (Conventions Standard #7)
  - Avoid inappropriate shifts… (Conventions Standard #8)
  - Use verbs in the …voice …mood… (Conventions standard #11)

English Language Arts

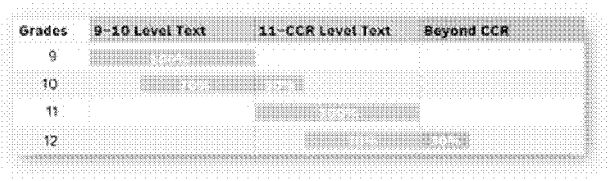
Grades 9–10



Appendix B2: Draft Standards in ELA and Mathematics

Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grade



While advancing through grades 9–10, students must engage with texts of steadily increasing complexity.

- **In grade 9**, students focus on reading texts in the 9–10 grade band level with scaffolding likely required for texts at the high end of the range.
- **In grade 10**, students focus on reading texts in the 9–10 grade band level (70 percent) independently and are introduced to texts in the 11–CCR grade band level as "stretch" texts (30 percent), which will likely require scaffolding.

Determining Text Complexity for Grades 9–10[27]

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers' professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts	Quantitative Measures of Texts
• *Structure:* Implicit, subtle, graphic representations are essential to meaning; texts of increasing length • *Purpose:* Multiple; often implicit • *Style and Language:* Demanding, many literary devices; extensive use of Tier 2 and 3 words and figurative language • *Richness:* Several ideas/concepts; abstract • *Relationships:* Several connections; implicit • *Knowledge Demands:* Ability to handle challenging themes, consider multiple perspectives, and understand experiences distinctly different from one's own; cultural and historical knowledge useful for understanding characters, settings, and allusions; extensive discipline-specific content knowledge	A study is underway with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences as well as their interests, motivations, and maturity level.	

[27] Adapted from ACT, Inc., (2005); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for 9–10

Narratives	Drama	Poetry	Informational Text
At this level, includes the subgenres of adventure stories, biographies, memoirs, historical fiction, mysteries, science fiction, mysteries, myths, science fiction, realistic fiction, allegories, parodies, satire, and graphic novels.	*At this level, includes one-act and multi-act plays both in written form and on film.*	*At this level, includes the subgenres of narrative poems, lyrical poems, free verse, odes, ballads, and epics.*	*At this level, Includes such subgenres as exposition and argument in the form of essays, speeches, opinion pieces as well as other documents and digital media sources on a range of topics.*

Illustrative Texts for Narratives, Drama, and Poetry[28]

The Odyssey by Homer (8th century B.C.E.) translated by Robert Fagles

The Grapes of Wrath by John Steinbeck (1939)

The Killer Angels by Michael Shaara (1975)

In the Time of the Butterflies by Julia Alvarez (1994)

The Glass Menagerie by Tennessee Williams (1944)

"Song" by John Donne (1635)

"The Raven" by Edgar Allen Poe (1845)

"Loveliest of Trees" by A.E. Houseman (1896)

"I Am Offering This Poem to You" by Jimmy Santiago Baca (1977)

Illustrative Informational Texts

"Second Inaugural Address" by Abraham Lincoln (1865)**

"State of the Union Address" by Franklin Delano Roosevelt (1941)

"Remarks to the Senate in Support of a Declaration of Conscience" by Margaret Chase Smith (1950)

"Address at the March on Washington" by Martin Luther King, Jr. (1963)**

"A Quilt of a Country" by Anna Quindlen (2001)

***Seminal historical texts that all students are expected to read*

[28] See Appendix B for other texts illustrative of Grades 9–10 text complexity.

Appendix B2: Draft Standards in ELA and Mathematics

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Read the text closely to determine what the text says explicitly and to make logical inferences from it; cite text evidence to support analyses in discussion and in writing.
2. Articulate the theses and themes and summarize how they develop over the course of the text and how they are expressed by the key details.
3. Analyze in detail how complex and multifaceted events, ideas, and characters unfold and interact over the course of the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. draw on specific details to describe how the events, characters, or setting develops over the course of the drama, narrative poem, or story
b. summarize the development of a theme and describe how that theme resonates throughout the text
c. weave together the details of texts to form a comprehensive understanding of its characters, including their overlapping or competing motivations
d. describe how the accumulation of specific phrases and images within poems contributes to a theme as a whole

Informational Text

a. demonstrate a command of the precise details of the exposition or argument, drawing on specific points to support an understanding of a part or the text as a whole
b. analyze the development of theses or explanations in texts and summarize succinctly the key relationships among ideas and supporting details

Observing craft and structure

Core Standards — Students can and do:

4. Interpret the meanings of words and phrases, including connotative and figurative meanings, and explain how specific word choices shape the meaning and tone of the text.
5. Analyze the structure of complex text and its parts, including how specific sentences, paragraphs, and larger portions build on each other and contribute to the whole of the text.
6. Compare and contrast the content and style of two or more texts written on similar topics or themes.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. analyze how the precise choice of words and phrases creates vivid images and sets the tone, mood, and theme of the text; compare the impact of words selected by the author to similar words with different connotations

b. explain how authors manipulate time (e.g., flashbacks, foreshadowing, pacing) to create suspense, mystery, or humor
c. evaluate how playwrights use soliloquies to portray the internal thinking and feeling of characters
d. compare and contrast similarities and differences in styles and forms of poems on a similar theme or topic

Informational Text

a. analyze how the author uses specific words and metaphors to establish tone or to make illuminating comparisons in an argument, explanation, or description
b. explain how the author structures information or an argument to emphasize key points and advance a point of view
c. analyze how different authors organize and categorize similar information and describe the impact of those different approaches

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Synthesize information presented graphically or visually in print, videos, or electronic texts with the information provided by the text.
8. Follow and evaluate the logic and reasoning of the text, including assessing whether the evidence provided is sufficient to support the claims.
9. Analyze the point of view or purpose represented in the text, assessing how it shapes the content, style, and tone.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. explain how a story unfolds when it is told by alternating or multiple narrators with different points of view
b. analyze literature in terms of its connection to related historical and cultural events and contexts

Informational Text

a. interpret complex, multifaceted, quantitative, or technical information presented in maps, charts, illustrations, graphs, and time lines
b. provide an account of an author's precise claims, including how specific assertions are defined and distinguished from opposing statements
c. analyze the explicit and implicit premises of an argument and determine if the conclusions reached are logically justified by the evidence presented in the text
d. compare how different authors construct and develop different points of views or perspectives on similar events or issues by assessing their assumptions, evidence, and reasoning

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding texts.

Appendix B2: Draft Standards in ELA and Mathematics

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write informative and explanatory texts and arguments that match purpose to task and address familiar as well as more distant, unknown and general audiences (e.g., peers, elected officials and policy makers, community members).

Conducting research

Core Standards — Students can and do:

2. Demonstrate proficiency at performing short, focused research projects as well as more sustained inquiries that demonstrate an increasing command of the subject under investigation.
3. Assemble evidence independently from authoritative and credible print and digital sources.
4. Assess the credibility, reliability, consistency, and accuracy of the information and sources gathered and determine the strengths and limitations of each source and avoiding over-reliance on any one source.
5. Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism.
6. Cite print or electronic sources correctly and document quotations, paraphrases, graphics, and other information using a standard format.

Revising writing

Core Standards — Students can and do:

7. Strengthen writing through revision, editing, or beginning again to ensure to ensure logical organization, precision of word choice, and coherence.

Using tools and technology

Core Standards — Students can and do:

8. Use technology and other tools to produce, revise, and distribute writing, as well as to interact online with others about writing, including responding to and providing feedback.

Developing proficiency in a range of writing

9. Create writing over extended timeframes (time for reflection and revision) and shorter timeframes (a single sitting or a day or two), responding to specific sources.

   Focus by grade level:

   Grade 9: Analyzing the content of literary or informational sources at the 9-10 grade band level of text complexity and content
   Grade 10: Comparing or evaluating the contents of literary or informational sources at the 9-10 grade band level of complexity and content

Standards — Students can and do (by key text type):[29]

Narratives

By high school, students are most often using narrative writing as a technique embedded within other genres. They use narrative writing to inform and persuade. They may, for example, provide a brief anecdote to support a point made in an argument or a scenario to illustrate an explanation. In such cases, narrative writing is a technique rather than a form in itself.

Informative and Explanatory Texts

a. provide a clear and coherent introduction that establishes the subject and conveys a knowledgeable stance
b. develop a complex subject through relevant and specific facts, concrete details, quotations, or other information and examples
c. organize complex information into categories that make clear distinctions and provide headings, figures, tables, and diagrams when useful
d. employ discipline-specific and technical vocabulary and maintain a formal, objective style
e. adapt strategies to present information and explanations (e.g., if/then, extended definitions, classification, comparison/contrast, and cause/effect) and employ them to manage the complexity of a topic
f. link ideas with transitions and by varying sentence structures to express relationships between ideas and create cohesion
g. emphasize the most significant information and confirm the accuracy of key points
h. provide a conclusion that articulates the implications and significance of the information or explanation

Arguments

a. establish a substantive claim and distinguish it from alternate or opposing claims
b. support claims with logical reasons
c. provide relevant and sufficient evidence from credible sources in support of the reasons
d. explain how the evidence links to the claim
e. develop the argument in part based on knowledge of the audience (e.g., building bridges by opening with areas of agreement)
f. convey relationships between reasons, as well as between reasons and evidence, and signal alternative claims using words, phrases, and clauses (e.g., *on the other hand, however, but, nevertheless, because, therefore, in addition*).
g. maintain a formal style when appropriate to the discipline or context
h. enhance the reliability of the argument by employing strategies such as paraphrasing or quoting explicitly from a credible, authoritative source
i. provide a concluding statement or section that enhances the argument, using strategies such as articulating the implications, summing up the key factors, or weighing the evidence to support the claim

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively in a range of structured interactions—both interpersonally and in groups—exchanging information constructively and with confidence.

[29] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

2. Sustain concentration on complex information presented orally, visually, or multi-modally and confirm understanding by summarizing, analyzing, and elaborating on key ideas.

Standards — Students can and do (by key communication type):

Classroom discussions and collaboration

a. come to discussions having researched, studied, and taken notes on topics or issues under study and draw upon that preparation in discussions
b. determine the key ideas as well as the tone and mood of communications presented orally or through other media
c. ask questions to test the evidence that supports a speaker's claims and conclusions presented orally or through other media
d. build on essential information from others' input and respond constructively by making cogent and verifiable comments that aid in the furthering and deepening of discussions
e. integrate multiple streams of data presented through a variety of multi-modal media into a cohesive, meaningful understanding of the information
f. support productive teamwork by identifying the comments and claims made on all sides of an issue; evaluating the degree to which each claim is supported by evidence; sifting, summarizing, and putting to use the most important ideas developed by the group; and determining what additional information, research, and tasks are required in order to move the group towards its goals

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Present information and points of view, structuring and organizing comments to support their purposes and guide the listener.
4. Vary intonation and phrasing for emphasis and effect, demonstrating command of formal English when indicated or appropriate (e.g., presenting ideas versus class discussion).

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. organize and present complex information about situations, topics, or texts so that listeners can follow the line of thought by grouping related ideas, using transitional markers, and clarifying one's claims with evidence that is verifiable and accessible
b. align verbal (tone, phrasing, pacing) and nonverbal strategies (gestures and facial expressions) for emphasis and effect
c. make strategic use of multimedia elements and visual displays of data to enhance understanding
d. perform dramatic readings of various prose and poetry, speaking with clarity, fidelity, and responsiveness to the text, reflecting on syntax and diction for cues regarding emphasis and rhythm

Language Development Standards

Conventions

In high school, students gain a broad range of sophisticated language skills to enhance meaning, achieve stylistic effect, and create subtle links between and among ideas. They maintain parallel structure. They acquire a more conceptual understanding of usage and the limits of "rules." They use a full range of punctuation, including ellipses, semicolons,

colons, and hyphens, and have a fuller understanding of how to employ commas and dashes. They make use of a wide range of phrases and clauses for effect. They maintain a consistent style and tone, using a style manual appropriate to the discipline in which they are working to help conventionalize their writing.

Key Terms: colon, ellipses, hyphen, semicolon, parallel structure, verbal

Grammar and usage

Core Standards — Students can and do:

1. Use parallel structure in writing.
2. Consult references (e.g., *Merriam-Webster's Dictionary of English Usage*) as needed to resolve particular usage issues, particularly when the usage is contested.

Mechanics

Core Standards — Students can and do:

3. Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore a light*[,] *blue suit*).
4. Use a comma, ellipses, or dash to indicate a pause or break.
5. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.
6. Use a colon to introduce a list or a quotation.
7. Observe the conventions concerning using hyphens to join words.

Word choice and style

Core Standards — Students can and do:

8. 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.
9. Maintain consistency in style and tone.
10. Write and edit work so that it conforms to the guidelines in a style manual.

Focus by Grade-Level
Grade 9: Style (Conventions Standards #9, #10)
Grade 10: Advanced punctuation use (Conventions Standards #s 3-7)

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word—as compared to simply a definition. In high school, students continue to make use of a range of strategies to determine and clarify the meaning of unknown and multiple-meaning words. This repertoire now includes considering multiple levels of context (sentence, paragraph, and text levels) and the word's history. They habitually verify their inferences of word meanings. They interpret a wide range of figurative language found in what they read and consider its contribution to the text. Possessing a highly developed sense of the shadings among words with similar denotations,

Appendix B2: Draft Standards in ELA and Mathematics

they evaluate an author's or speaker's choice of words as well as alternatives to the words chosen. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly. This includes a continuing focus on "Tier 2" words and phrases (those that commonly appear in writing but not in spoken language), "Tier 3" words and phrases (those that are specific and important to particular disciplines).

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - using knowledge of roots, prefixes, and suffixes
   - using context, including syntactic and semantic clues, at the sentence, paragraph, and text levels
   - consulting reference materials, including general and specialized dictionaries and thesauruses, both print and digital
2. Determine the relevant meaning of multiple-meaning words by using context.
3. Verify the preliminary determination of a word's meaning (e.g., by checking the inferred meaning in context or by looking up the word in a dictionary).
4. Interpret figurative language and analyze its role within the text.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

5. Assess and explain the merits of the choice of one word over another in reading, writing, speaking, and listening.
6. Gain a clearer sense of a word's meaning and use by comparing it to other words with similar but not identical meanings (synonyms).

Acquiring vocabulary

Core Standards — Students can and do:

7. Acquire and use a grade-appropriate vocabulary of Tier 2 words taught directly and gained through reading.
8. Acquire and use a grade-appropriate vocabulary of Tier 3 words taught directly and gained through reading.

Grade 9 English Language Arts: Focus for Instruction

Reading and Literature

In grade 9, students apply the core reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read 9-10 grade band text independently, with scaffolding likely required for texts at the high end of the range.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 100% 9-10 Band Text

100%

Writing and Research

In grade 9, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus: Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by analyzing the contents of literary or informational sources at the 9-10th grade band level of complexity and content.

Speaking and Listening

In grade 9, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

Language Development

In grade 9, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Style
  - Maintain consistency … (Conventions Standard #9)
  - (Style manual)… (Conventions Standard #10)

Appendix B2: Draft Standards in ELA and Mathematics

Grade 10 English Language Arts: Focus for Instruction

Reading and Literature

In grade 10, students apply the core reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read 9-10 grade band text independently as well as on sustained practice with 11-CCR band "stretch" texts, which will likely require scaffolding.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 70% 9-10 Band Text; 30% 11-CCR text

70% 30%

Writing and Research

In grade 10, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by analyzing the contents of literary or informational sources at the 9-10th grade band level of complexity and content.

Speaking and Listening

In grade 10, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

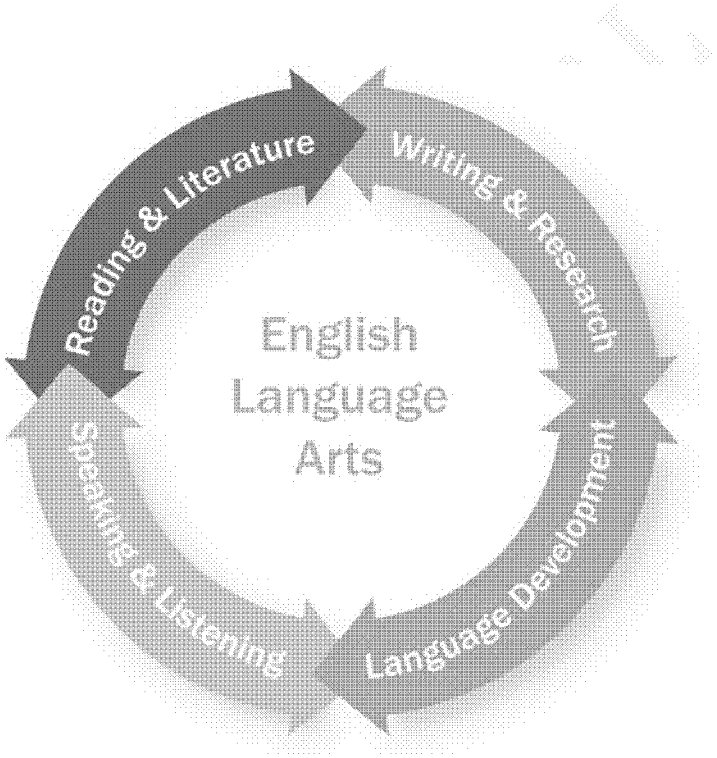
Language Development

In grade 10, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Advanced Punctuation Use
  - Coordinate adjectives … (Conventions Standard #3)
  - Comma/dash/ellipsis… (Conventions Standard #4)
  - Semicolon … (Conventions Standard #5)
  - Colon … (Conventions Standard #6)
  - Hyphen … (Conventions Standard #7)

English Language Arts

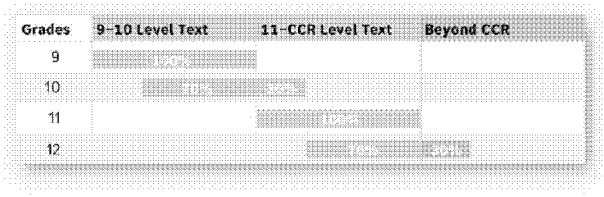
Grades 11–CCR



Appendix B2: Draft Standards in ELA and Mathematics

Required Text Complexity by Grade

Proportion of Texts Within and Above Grade Band to be Read in Each Grad



While advancing through grades 11-12, students must engage with texts of steadily increasing complexity.

- **In grade 11,** students focus on reading texts in the 11-CCR grade band level with scaffolding likely required for texts at the high end of the range.
- **In grade 12,** students focus on reading texts in the 11-CCR grade band level (70 percent) independently and are introduced to texts in the "Beyond CCR" grade band level as "stretch" texts (30 percent), which will likely require scaffolding.

Determining Text Complexity for Grades 11–CCR[30]

Text complexity is determined by a mix of qualitative and quantitative measures of the text itself refined by teachers' professional judgment about the match of particular texts to particular students. The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Qualitative Measures of Texts	Quantitative Measures of Texts
• *Structure:* Implicit, complex, unconventional; sophisticated graphic representations are essential to meaning; texts are sufficiently long to address complex subjects • *Purpose:* Multiple; often implicit and may be hidden or obscure • *Style and Language:* Unfamiliar, demanding, complex; many literary devices; extensive use of Tier 2 and 3 words and figurative language; language may be intentionally or unintentionally ambiguous • *Richness:* Many ideas/concepts; highly abstract; high information density • *Relationships:* Many implicit, complex, interwoven connections • *Knowledge Demands:* Ability to handle one or more complex themes, consider multiple and unusual perspectives, and understand experiences distinctly different from one's own; cultural and historical knowledge useful for understanding characters, settings, and allusions; extensive, perhaps specialized discipline-specific content knowledge	A study is underway with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity.
Professional Judgment that weighs students' prior knowledge and life experiences, students' interests, motivations, and maturity level.	

[30] Adapted from ACT, Inc., (2005); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hess and Biggam (2004)

Mix of Key Text Types for 11–CCR

Narratives	Drama	Poetry	Informational Text
At this level, includes the subgenres of adventure stories, biographies, memoirs, historical fiction, mysteries, science fiction, mysteries, myths, science fiction, realistic fiction, allegories, parodies, satire, and graphic novels.	*At this level, includes one-act and multi-act plays both in written form and on film.*	*At this level, includes the subgenres of narrative poems, lyrical poems, free verse, odes, ballads, and epics.*	*At this level, Includes such subgenres as exposition and argument in the form of essays, speeches, opinion pieces as well as other documents and digital media sources on a range of topics.*

Illustrative Texts for Narratives, Drama, and Poetry[31]

Pride and Prejudice by Jane Austen (1813)

Black Boy by Richard Wright (1945)

Their Eyes Were Watching God by Zora Neale Hurston (1937)

The Bluest Eye by Toni Morrison (1970)

The Namesake by Jhumpa Lahiri (2003)

The Importance of Being Earnest by Oscar Wilde (1895)

Death of a Salesman by Arthur Miller (1949)

"Ode on a Grecian Urn" by John Keats (1820)

"Because I Could Not Stop for Death" by Emily Dickinson (1890)

Illustrative Informational Texts

The Declaration of Independence by Thomas Jefferson (1776)**

The Crisis by Thomas Paine (1776)

Walden by Henry David Thoreau (1854)

"Politics and the English Language" by George Orwell (1946)

"Letter from a Birmingham Jail" by Martin Luther King (1963)**

"Mother Tongue" by Amy Tan (1990)

***Seminal historical texts that all students are expected to read*

[31] See Appendix B for other texts illustrative of Grades 11–CCR text complexity.

Appendix B2: Draft Standards in ELA and Mathematics

Reading and Literature Standards

Grasping specific details and key ideas

Core Standards — Students can and do:

1. Read the text closely to determine what the text says explicitly and to make logical inferences from it; cite text evidence to defend and challenge analyses in discussion and in writing.
2. Articulate the text's theses and themes and provide a summary that clarifies the relationships among ideas and the connections between key details.
3. Analyze in detail how complex and multifaceted events, ideas, and characters unfold and influence one another over the course of the text.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. analyze where the author chooses to focus and which details the author chooses to emphasize
b. analyze how multiple themes and ideas in the text interact and build on one another
c. evaluate the extent to which setting shapes the course of events and sets the mood
d. trace the origins and evolution of the traits, motivations, and relationships among characters and how they interact to influence the plot and its resolution
e. describe how the poet develops a central image, preoccupation, or idea through the accumulation of specific phrases and images

Informational Text

a. demonstrate an understanding of the precise elements of an author's explanation or argument, including the distinctions the author makes between different ideas or information
b. scrutinize the details within specific portions of texts and connect the insights gained to develop an understanding of the text as a whole
c. analyze how the text captures the interaction between complex ideas or multifaceted events

Observing craft and structure

Core Standards — Students can and do:

4. Interpret the meanings of words and phrases, including connotative and figurative meanings, and analyze how word choices have a significant effect on the meaning and tone of the text.
5. Analyze the ways the author chooses to structure the text, including how to present complex ideas and events and where to begin and end.
6. Compare and contrast the choices different authors make in treating similar topics or themes, including content, style, and tone.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. analyze how the author's use of language impacts the text, including the degree of formality of the diction and how it is evocative of a particular setting (e.g., a courtroom, a rural town)
b. evaluate how authors create meaningful ambiguity and multiple layers of meaning in poetry, drama, and other narratives
c. analyze how an author choice of where to begin a story, poem, or drama impacts the overall plot structure
d. contrast alternative treatments of the same dramatic work in different stage productions and evaluate how the directors' different interpretations relate to evidence within the script
e. analyze how the author draws upon and transforms fictional or historical source material (e.g., how Shakespeare draws on Plutarch or a story in Ovid)

Informational Text

a. describe how the choice of a particular word, phrase, or series of words can impact significantly the meaning of a document (e.g., contract, court opinion, essay)
b. evaluate how the author's choice of structure contributes to the effectiveness of the exposition or argument
c. compare and contrast presentations of the same topic in different media and describe the differences in focus, organization, and links to other sources

Integrating information and evaluating evidence

Core Standards — Students can and do:

7. Synthesize information presented graphically or visually in print, videos, or electronic texts and, when appropriate, note discrepancies of fact or interpretation (e.g., data in a table inconsistent with the author's analysis).
8. Rigorously evaluate the logic and reasoning of the text, including assessing whether the evidence provided is relevant and sufficient.
9. Analyze how the point of view or purpose develops in the text and explain how it is revealed in the key details.

Standards — Students can and do (by key text type):

Narratives, Drama, and Poetry

a. compare points of view from which different stories are told and trace how they shift within a story and influence characterization and plot
b. explain how dramatic irony created by the differences between what the audience or reader knows and what the characters know in a drama or narrative fiction creates suspense, anxiety, or humor

Informational Text

a. synthesize ideas and data presented graphically and determine their purpose and relationship to the rest of the text (print or digital), noting any inconsistencies or discrepancies between the two
b. evaluate the reasoning and rhetoric that support an argument or explanation, including assessing the sufficiency and relevance of the evidence as well as identifying any unsubstantiated statements or fallacious reasoning
c. analyze documents of historical and literary significance for their premises, perspectives, and logical structure

Developing habits for reading complex text

Core Standards — Students can and do:

10. Develop the habit of reading independently and productively, sustaining concentration and stamina to read increasingly demanding texts.

Writing and Research Standards

Writing to reflect audience, purpose, and task

Core Standards — Students can and do:

1. Write informative and explanatory texts and arguments that match purpose to task and are tailored to audiences with specific requirements (e.g., admissions officer, human resources officer, skeptical audience).

Conducting research

Core Standards — Students can and do:

2. Demonstrate proficiency at performing short, focused research projects as well as more sustained inquiries that synthesize multiple authoritative sources on a subject.
3. Analyze evidence independently gathered from multiple authoritative and credible print and digital sources.
4. Assess the credibility, reliability, consistency, and accuracy of the information and sources gathered and determine their usefulness and relevance for the specific audience, purpose, and task.
5. Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism.
6. Cite print or electronic sources correctly and document quotations, paraphrases, graphics, and other information using a standard format.

Revising writing

Core Standards — Students can and do:

7. Strengthen writing through revision, editing, or beginning again to ensure to ensure logical organization, precision of word choice, and coherence.

Using tools and technology

Core Standards — Students can and do:

8. Demonstrate command of technology and other tools to produce, revise, and distribute writing, as well as to interact online with others about writing, including responding to and providing feedback.

Developing proficiency in a range of writing

9. Create writing over extended timeframes (time for reflection and revision) and shorter timeframes (a single sitting or a day or two), responding to specific sources.

   Focus by grade level:

   Grade 11: Analyzing the content of literary or informational sources at the 11-CCR grade band level of text complexity and content
   Grade 12: Synthesizing or evaluating the contents of literary or informational sources at the 11-CCR grade band level of complexity and content

Standards — Students can and do (by key text type):[32]

Narratives

By high school, students are most often using narrative writing as a technique embedded within other genres. They use narrative writing to inform and persuade. They may, for example, provide a brief anecdote to support a point made in an argument or a scenario to illustrate an explanation. In such cases, narrative writing is a technique rather than a form in itself.

Informative and Explanatory Texts

a. provide a clear and coherent introduction that establishes the subject and conveys a knowledgeable stance
b. develop complex subjects through judicious use of relevant and specific facts, details, quotations, examples, or other information
c. organize and present information so that each new piece of information builds upon what precedes it to create a unified whole
d. demonstrate command of discipline-specific and technical vocabulary when appropriate and adjust style as appropriate to the situation
e. demonstrate control of a range of strategies to present complex information or explanations and employ them effectively to manage the complexity of the topic and accomplish the writer's purpose
f. link ideas with transitions and by varying sentence structures to express the precise relationships among ideas and create cohesion
g. provide a conclusion that articulates the implications and significance of the information or explanation

Arguments

a. establish the importance of the issue, make a substantive claim, and distinguish it from alternate or opposing claims
b. support claims with logical reasons
c. provide relevant, sufficient, and convincing evidence from credible sources in support of the reasons
d. make logical connections between the evidence and the claim
e. develop the argument in part based on an awareness of the audience's values, knowledge of the issue, and possible biases
f. convey relationships between reasons, as well as between reasons and evidence, and signal alternative claims using words, phrases and clauses (e.g., *on the other hand*, *however*, *but*, *nevertheless*, *because*, *therefore*, *in addition*)
g. maintain a formal style when appropriate to the discipline or context
h. enhance the credibility of the argument by demonstrating control of strategies, including paraphrasing or quoting from authoritative sources and citing logical consequences
i. provide a concluding statement or section that enhances the argument, using strategies such as articulating the implications, summing up the key factors, or weighing the evidence to support the claim

[32] See Appendix C for samples of student writing that illustrate through annotations the level of quality required to meet the writing standards.

Appendix B2: Draft Standards in ELA and Mathematics

Speaking and Listening Standards

Listening closely and participating productively

Core Standards — Students can and do:

1. Participate productively in a range of structured interactions—both interpersonally and in groups—exchanging information constructively and with confidence, adapting to different levels of formality.
2. Sustain concentration on complex information presented orally, visually, or multi-modally and confirm understanding by challenging or defending key ideas and supporting evidence.

Standards — Students can and do (by key communication type):

Classroom discussions and collaboration

a. come to discussions having formulated considered judgments on the topics or issues under study and draw upon that preparation in discussions
b. evaluate the content and rhetoric of a speaker, noting when evidence is exaggerated or distorted
c. ask questions that probe the reasoning and evidence that support the claims and conclusions made orally or through other media, including offering counter examples or other points of view
d. propel conversations forward by providing essential information and sharing findings that clarify, accommodate, or challenge ideas
e. synthesize information presented visually or digitally with other information presented orally, noting the effect on meaning of any discrepancies between the two presentations
f. assist in the formulation and productive functioning of both formal and informal self-directed work groups by identifying and assigning tasks and maintaining conversational norms as well as evaluating the progress of the team towards its goals

Exchanging information and speaking effectively

Core Standards — Students can and do:

3. Present information clearly and persuasively to others, selecting the most appropriate way to structure comments for clarity and effect.
4. Adapt delivery, tone, and mood for emphasis and effect, demonstrating command of formal English when indicated or appropriate (e.g., presenting ideas versus class discussion).

Standards — Students can and do (by key communication type):

Presentation of ideas and information

a. organize and present complex information about topics, situations, or texts, providing reliable and credible evidence from authoritative sources in support of findings and claims such that the line of reasoning is clear and alternative perspectives are addressed
b. shape delivery and message to the occasion and the audience's values, knowledge of the issue, and possible biases
c. engage an audience and improve comprehension through visual aids in presentations, including multimedia platforms
d. portray and explain various ways to perform dramatic readings of various prose and poetry, citing text evidence for the alternative readings

Language Development Standards

Conventions

In high school, students gain a broad range of sophisticated language skills to enhance meaning, achieve stylistic effect, and create subtle links between and among ideas. They maintain parallel structure. They acquire a more conceptual understanding of usage and the limits of "rules." They use a full range of punctuation, including ellipses, semicolons, colons, and hyphens, and have a fuller understanding of how to employ commas and dashes. They make use of a wide range of phrases and clauses for effect. They maintain a consistent style and tone, using a style manual appropriate to the discipline in which they are working to help conventionalize their writing.

Key Terms: colon, ellipses, hyphen, semicolon, parallel structure, verbal

Grammar and usage

Core Standards — Students can and do:

11. Use parallel structure in writing.
12. Consult references (e.g., *Merriam-Webster's Dictionary of English Usage*) as needed to resolve particular usage issues, particularly when the usage is contested.

Mechanics

Core Standards — Students can and do:

13. Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore a light*[,] *blue suit*).
14. Use a comma, ellipses, or dash to indicate a pause or break.
15. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.
16. Use a colon to introduce a list or a quotation.
17. Observe the conventions concerning using hyphens to join words.

Word choice and style

Core Standards — Students can and do:

18. 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.
19. Maintain consistency in style and tone.
20. Write and edit work so that it conforms to the guidelines in a style manual.

Focus by Grade-Level
Grade 11: Parallel structure and phrasing (Conventions Standards #1, #8)
Grade 12: Usage (Conventions Standard #2)

Vocabulary

Key to students' vocabulary development is building rich and flexible word knowledge marked by multiple connections that link a word to similar words and to contexts and experiences that are related to that word—as compared to simply a definition. In high school, students continue to make use of a range of strategies to determine and clarify the meaning of unknown and multiple-meaning words. This repertoire now includes considering multiple levels of context (sentence, paragraph, and text levels) and the word's history. They habitually verify their inferences of word meanings. They interpret a wide range of figurative language found in what they read and consider its contribution to the text. Possessing a highly developed sense of the shadings among words with similar denotations, they evaluate an author's or speaker's choice of words as well as alternatives to the words chosen. They acquire new words through interactive language use, including informal talk, discussion, reading and responding to text as well as by being taught the words directly. This includes a continuing focus on "Tier 2" words and phrases (those that commonly appear in writing but not in spoken language), "Tier 3" words and phrases (those that are specific and important to particular disciplines).

Determining the meaning of words

Core Standards — Students can and do:

1. Determine or clarify the meaning of an unknown word by using one or more of the following strategies:
   - using knowledge of roots, prefixes, and suffixes
   - using context, including syntactic and semantic clues, at the sentence, paragraph, and text levels
   - consulting reference materials, including general and specialized dictionaries and thesauruses, both print and digital
   - using the word's history (etymology)
2. Determine the relevant meaning of multiple-meaning words by using context.
3. Verify the preliminary determination of a word's meaning (e.g., by checking the inferred meaning in context or by looking up the word in a dictionary).
4. Interpret figurative language and analyze its role within the text.

Understanding the nuances of words (denotations and connotations)

Core Standards — Students can and do:

7. Assess and explain the merits of the choice of one word over another in reading, writing, speaking, and listening.
8. Gain a clearer sense of a word's meaning and use by comparing it to other words with similar but not identical meanings (synonyms).

Acquiring vocabulary

Core Standards — Students can and do:

7. Acquire and use an extensive vocabulary of Tier 2 words taught directly and gained through reading.
8. Acquire and use a grade-appropriate vocabulary of Tier 3 words taught directly and gained through reading.

Grade 11 English Language Arts: Focus for Instruction

Reading and Literature

In grade 11, students apply the core reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read 11-CCR grade band text independently, with scaffolding likely required for texts at the high end of the range.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 100% 11-CCR Band Text

Writing and Research

In grade 11, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter timeframes, responding to specific sources by analyzing the contents of literary or informational sources at the 11-CCR grade band level of complexity and content.

Speaking and Listening

In grade 11, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

Language Development

In grade 11, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

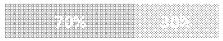
- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Parallel Structure and Phrasing
  - Use parallel structure in writing … (Conventions Standard #1)
  - Use various types of phrases… (Conventions Standard #8)

Grade 12 English Language Arts: Focus for Instruction

Reading and Literature

In grade 12, students apply the core reading standards to the following types of text: narratives, drama, poetry, and informational text. Students focus on learning to read 11-CCR grade band text independently as well as on sustained practice with Beyond CCR band "stretch" texts, which will likely require scaffolding.

- Reading standards applied to different text types
- Mix of text types: Narratives, Drama, Poetry, Informational Text
- **Text Complexity focus:** 70% 11-CCR Band Text; 30% Beyond CCR text



Writing and Research

In grade 12, students apply the standards in writing to the following types of text: Narrative, Informative/Explanatory, and Argument. Students perform research, including short focused research tasks. They also write over various time frames in response to specific sources.

- Writing standards applied to different text types: Narrative, Informative/Explanatory, Argument
- Research, including short focused research tasks
- **Grade-specific focus:** Students create writing over extended and shorter time frames, responding to specific sources by synthesizing or evaluating the contents of literary of informational sources of 11-CCR grade band level complexity and content.

Speaking and Listening

In grade 12, students apply the core speaking and listening standards in different contexts.

- Speaking and listening standards applied in different contexts: classroom discussion and collaboration as well as in presentations of ideas and information.

Language Development

In grade 12, students apply the language development standards by applying the core vocabulary standards to determine word meaning, understand word nuances, and acquire vocabulary and to produce writing and speaking that observes appropriate conventions.

- Vocabulary standards applied to reading, writing, speaking and listening
- **Grade-specific conventions focus:** Usage
  - Consult references … (Conventions Standard #2)

Appendix B2: Draft Standards in ELA and Mathematics

APPENDIX A

Text Complexity Next Steps

A key requirement of the Core Standards in Reading is that all students engage with texts of steadily increasing complexity as they advance through school. The Core Standards' model of *text complexity*—in the simplest terms, how easy or difficult a text is to read—blends qualitative and quantitative measures of inherent text difficulty with educators' knowledge of their students. All three elements should be considered together when evaluating a text's appropriateness for particular students.

Qualitative dimensions are aspects of text best measured by readers applying trained judgment to the evaluation task. These dimensions include the text's structure, format, and length; its purpose; its style and language; the quality, nature, and density of its ideas, concepts, and information; relationships among ideas, information, and characters in it; and the knowledge and experience demands it places upon readers.

Quantitative dimensions include not only those aspects of text traditionally measured by readability formulas—word length and sentence length—but also computer-assessable aspects of text cohesion. These include referential cohesion (the degree to which a text refers back to previous points) and word frequency.

The qualitative and quantitative measures of a text are balanced in the model by educators' *professional judgment* of the appropriateness of the text for particular students given their background knowledge, interests, and motivation. Harder texts may be appropriate for highly knowledgeable or motivated students, and easier texts may be suitable as a means for building struggling readers' skills up to required levels.

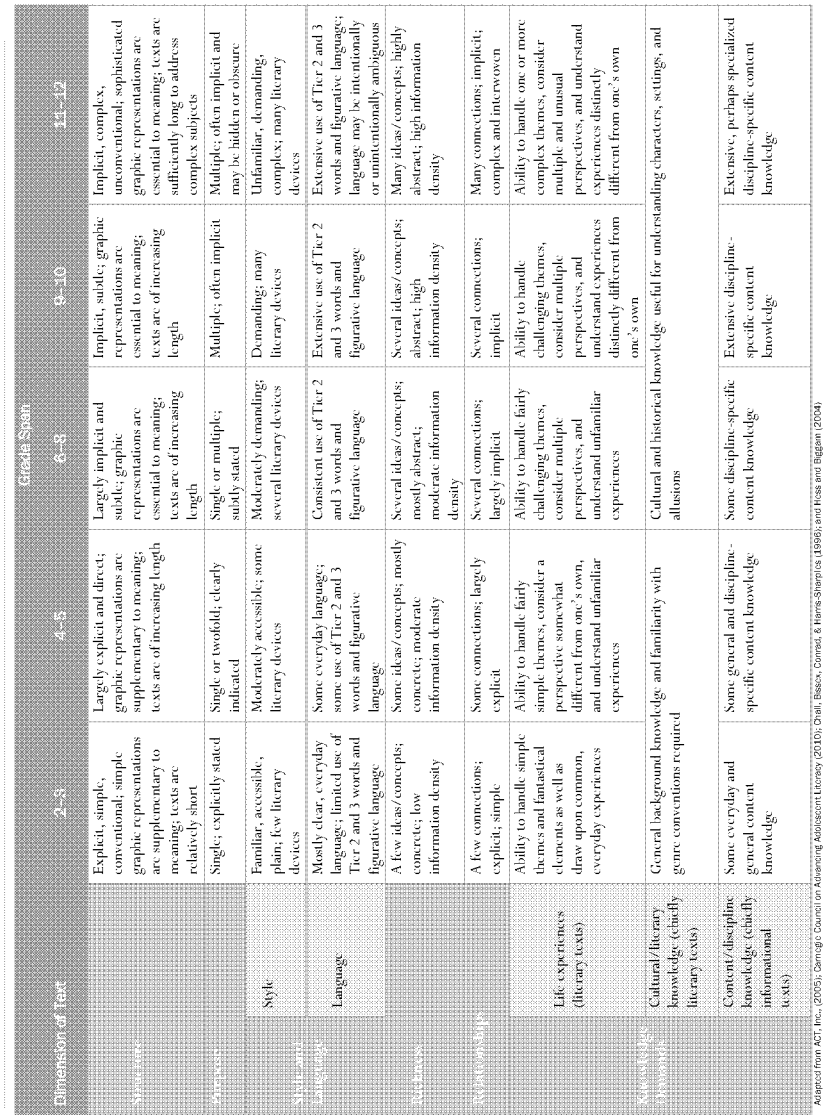
While the tools included in this draft and the forthcoming ones described below represent an important advance over those previously available, no measure or set of measures is perfectly accurate. The mandate is that the body of works that students study in a given year represent an appropriate level of complexity as defined by these standards.

Current and next steps

A qualitative rubric, derived from prior studies and refined through feedback from trained teacher-raters, is included in this draft to define some ways in which text complexity should increase as students move through the grades. The rubric can be used (in conjunction with forthcoming quantitative measures) to place individual texts into grade bands by complexity. The qualitative dimensions are best understood, however, as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

The Core Standards work team is presently conducting a study with Coh-Metrix, a nonprofit research organization, to identify roughly five to seven computer-measurable dimensions of text cohesion. These dimensions, paired with a Lexile score, will yield a robust quantitative assessment of text complexity that, along with both the qualitative dimensions and professional judgment, will round out the Core Standards model of complexity. Graphically, these three elements will appear together in a "label" defining complexity for a given text.

Following the completion of that study in early 2010, the work team will oversee the development of a Web site designed to make the text complexity tools more user-friendly and broadly available. The site will contain a database of complexity information for a range of widely used texts, including links to texts and test passages of similar complexity. Educators will be able to input additional texts for evaluation and comment on the suitability of particular texts for particular groups of students. The overarching goal is to make text complexity a vital and easy-to-incorporate element of reading instruction.



Text Complexity Qualitative Scheme

Dimension of Text	Grade Span: 2–3	4–5	6–8	9–10	11–12
Structure	Explicit, simple, conventional; simple graphic representations are supplementary to meaning; texts are relatively short	Largely explicit and direct; graphic representations are supplementary to meaning; texts are of increasing length	Largely implicit and subtle; graphic representations are essential to meaning; texts are of increasing length	Implicit, subtle; graphic representations are essential to meaning; texts are of increasing length	Implicit, complex, unconventional; sophisticated graphic representations are essential to meaning; texts are sufficiently long to address complex subjects
Purpose	Single; explicitly stated	Single or twofold; clearly indicated	Single or multiple; subtly stated	Multiple; often implicit	Multiple; often implicit and may be hidden or obscure
Style	Familiar, accessible, plain; few literary devices	Moderately accessible; some literary devices	Moderately demanding; several literary devices	Demanding; many literary devices	Unfamiliar, demanding, complex; many literary devices
Language	Mostly clear, everyday language; limited use of Tier 2 and 3 words and figurative language	Some everyday language; some use of Tier 2 and 3 words and figurative language	Consistent use of Tier 2 and 3 words and figurative language	Extensive use of Tier 2 and 3 words and figurative language	Extensive use of Tier 2 and 3 words and figurative language; language may be intentionally or unintentionally ambiguous
Ideas	A few ideas/concepts; concrete; low information density	Some ideas/concepts; mostly concrete; moderate information density	Several ideas/concepts; mostly abstract; moderate information density	Several ideas/concepts; abstract; high information density	Many ideas/concepts; highly abstract; high information density
Organization	A few connections; explicit; simple	Some connections; largely explicit	Several connections; largely implicit	Several connections; implicit	Many connections; implicit; complex and interwoven
Life experiences (literary texts)	Ability to handle simple themes and fantastical elements as well as draw upon common, everyday experiences	Ability to handle fairly simple themes, consider a perspective somewhat different from one's own, and understand unfamiliar experiences	Ability to handle fairly challenging themes, consider multiple perspectives, and understand unfamiliar experiences	Ability to handle challenging themes, consider multiple perspectives, and understand experiences distinctly different from one's own	Ability to handle one or more complex themes, consider multiple and unusual perspectives, and understand experiences distinctly different from one's own
Cultural/literary knowledge (chiefly literary texts)	General background knowledge and familiarity with genre conventions required	Cultural and historical knowledge useful for understanding characters, settings, and allusions			
Content/discipline knowledge (chiefly informational texts)	Some everyday and general content knowledge	Some general and discipline-specific content knowledge	Some discipline-specific content knowledge	Extensive discipline-specific content knowledge	Extensive, perhaps specialized discipline-specific content knowledge

Adapted from ACT, Inc., (2006); Carnegie Council on Advancing Adolescent Literacy (2010); Chall, Bissex, Conrad, & Harris-Sharples (1996); and Hiebert and Biggam (2004)

Appendix B2: Draft Standards in ELA and Mathematics

The qualitative dimensions of text complexity are best understood as continua of increasing complexity rather than as representing discrete and easily defined stages. Most authentic texts will exhibit some but not all of the traits linked to a particular grade band; qualitatively assigning a text to a grade band is therefore a matter of "best fit," or determining which grade band's set of descriptors most accurately describes the text.

Structure

- Explicit, simple, conventional → Implicit, complex, unconventional
- Simple graphic representations → Sophisticated graphic representations
- Graphic representations supplementary to meaning → Graphic representations essential to meaning
- Relatively short texts → Texts sufficiently long to address complex subjects

Purpose

- Single purpose → Multiple purposes
- Explicitly stated → Often implicit and may be hidden or obscure

Style

- Familiar, accessible, plain → Unfamiliar, demanding, complex
- Few literary devices → Many literary devices

Language

- Mostly everyday language → Extensive use of Tier 2 and 3 words
- Limited use of figurative language → Extensive use of figurative language
- Clear language → Potentially ambiguous language

Richness

- A few ideas/concepts → Many ideas/concepts
- Concrete ideas/concepts → Abstract ideas/concepts
- Low information density → High information density

Relationships

- A few connections → Many connections
- Explicit connections → Implicit connections
- Simple connections → Complex, interwoven connections

Knowledge Demands: Life Experiences

- Simple themes → Complex themes
- Single theme → Multiple themes
- Common, everyday experiences and fantastical elements → Experiences distinctly different from one's own
- Single perspective like one's own → Multiple and unusual perspectives

Knowledge Demands: Cultural Knowledge

- General background knowledge and familiarity with genre conventions required → Cultural and historical knowledge useful

Knowledge Demands: Content/Discipline Knowledge

- Some everyday and general content knowledge → Extensive, perhaps specialized discipline-specific content knowledge

Definitions of Key Writing Types

Narrative

Narrative writing is organized by time. Time is central because narrative writing depicts events, whether real or imagined. Narrative writing is fundamental to novels, short stories, biographies, autobiographies, historical accounts, and plays. With practice, students' repertoire of narrative strategies expands and their control of them increases. Students learn to provide visual details of scenes, objects, or people; to depict specific actions (movements, gestures, postures, and expressions); to use dialogue and interior monologue in order to provide insight into the narrator's and characters' personalities and motives; and to manipulate pace in order to highlight the significance of certain events and create tension and suspense. Narrative writing serves a variety of purposes; frequently it is embedded in other kinds of writing, such as writing intended to inform, instruct, or persuade.

Informative/Explanatory Text

Informative/explanatory writing conveys information accurately. This kind of writing can serve one or more of several closely related purposes: to increase readers' knowledge of a subject, to help readers better understand a procedure or process, or to enhance readers' comprehension of a concept. Informative/explanatory writing addresses questions, such as questions about types (What are the different types of whales?), about components (What are the parts of a motor?), about aspects of a subject such as its size, function, or behavior (How big is the United States? What is an x-ray used for? How do penguins find food?), about how things work (How does a camera work?), and about why things happen (Why is Earth warming?). To produce this kind of writing, students draw on what they already know and on primary and secondary sources. With practice, students become better able to develop a controlling idea that supports coherence and focus, and they can select examples, facts, and details that are relevant. They are also able to employ a variety of techniques that writers use to convey information, such as naming, describing, or differentiating different types or parts; comparing or contrasting one subject with another; and relating an anecdote or scenario to illustrate a point.

Argument

The purpose of argument is to persuade in order to change the reader's point of view or to bring about some action on the reader's part. There are many techniques employed by writers to persuade readers—for example, appeals to emotions, appeals to common beliefs, and the creation of a believable authorial voice. However, the core of argument is logic and evidence. A logical argument convinces its audience of the merit and reasonableness of the claims and the proof offered in support of the claims. Writers of logical arguments provide credible evidence (facts and details) to support their assertions. Although young children are not able to produce fully developed logical arguments, they are developing a variety of ways to extend and elaborate their work around opinions or judgments. They provide examples, they offer reasons for their assertions, and they explain cause and effect. These kinds of expository structures are steps on the road to argument.

Conventions

Three goals undergird the Conventions standards:

(1) Students should have a carefully specified range of broadly useful terms in order to be precise in their discussions about language. Such key terms (noted below) should be defined in grade-appropriate ways for younger students and fleshed out more fully in later grades. (For guidance on this matter, see, for example, Brock Haussamen with Amy Benjamin, Martha Kolln, and Rebecca S. Wheeler, *Grammar Alive!: A Guide for Teachers* [Urbana, IL: NCTE, 2003] and Amy Benjamin with Tom Oliva, *Engaging Grammar: Practical Advice for Real Classrooms* [Urbana, IL: NCTE, 2007].) Additional terminology may be helpful in particular instructional situations; avoiding terminology altogether may be appropriate in others.

(2) Students must be able to observe the conventions of standard English in their formal writing and speaking for the sake of having their efforts widely understood and taken seriously.

(3) Students need to understand that effective language use is more than simply observing a series of rules but also about making careful choices among alternatives, considering those choices in relation to task, purpose, audience, occasion, and discipline.

Many conventions-related issues are likely to arise in students' writing and speaking prior to their formal appearance in the sequence below. For example, students in kindergarten are expected to know what a complete sentence is even though the concept of a fragment is not mentioned specifically in the standards until grade 3.

Conversely, many skills and understandings introduced at lower grades will require continued attention as students advance in the grades. Students in grade 3, for instance, can ensure subject-verb agreement in simple situations, such as when the subject and verb appear next to each other in a sentence. As students' writing and speaking become more complex, however, new agreement challenges arise, such as intervening phrases suggesting a different number for the verb than the subject calls for. "Errors" with applying previously mastered skills and understandings are thus often a sign of progress in that students are stretching their ability to communicate. "Relearning" is then a matter of students becoming able to apply old skills and understandings in new, more sophisticated ways.

While all the Conventions standards should be considered cumulative, certain ones, noted with an asterisk (*), are particularly likely to need to be revisited by older students as they convey ever more elaborate ideas in writing and speech.

ELA Conventions Progressive Skills: By Standard

The following standards, marked with an asterisk (*) in the standards document, are skills and understandings that require continued attention in higher grades (after their introduction in lower grades) as they are applied to increasingly sophisticated writing and speaking.

Grade 3	Grades 4–5	Grades 6–8 (Grade/band in which the standard is introduced)
3.1 Generate complete sentences, avoiding sentence fragments, comma splices, and run-ons.		
3.2 Ensure subject-verb and pronoun-antecedent agreement.		
3.7 Choose words for effect.		
	4–5.2 Recognize and correct inappropriate shifts in verb tense.	
	4–5.3 Form and choose between adjectives and adverbs (including comparative and superlative forms), placing them appropriately within the sentence.	
	4–5.4 Correctly use frequently confused words.	
	4–5.5 Use idiomatic language.	
	4–5.7 Use punctuation to separate items in a series.	
	4–5.11 Spell grade-appropriate words correctly, consulting references as needed.	
	4–5.12 Use specialized, topic-specific language to convey ideas precisely.	
	4–5.13 Use figurative language to create images or make comparisons and connections between people, objects, or ideas.	
	4–5.14 Use punctuation for effect.	
	4–5.15 Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.	
		6-8.2 Place phrases and clauses within a sentence, avoiding misplaced and dangling modifiers.
		6-8.4 Recognize and correct inappropriate shifts in pronoun number and person.
		6-8.5 Recognize and correct vague pronouns with unclear or ambiguous antecedents.
		6-8.8 Recognize and correct inappropriate shifts in verb voice and mood.
		6-8.9 Set off nonrestrictive/parenthetical elements with commas, parentheses, or dashes.
		6-8.12 Vary sentence patterns for meaning, reader/listener interest, and style.
		6-8.13 Choose words and phrases to express ideas precisely and concisely, avoiding redundancy and wordiness.

Vocabulary Instruction

> Words are not just words. They are the nexus — the interface — between communication and thought. When we read, it is through words that we build, refine, and modify our knowledge. What makes vocabulary valuable and important is not the words themselves so much as the understandings they afford.
>
> Marilyn Adams[33]

The importance of students acquiring a rich and varied vocabulary cannot be overstated. Research suggests that if students are going to grasp and retain words and comprehend text, they need incremental, repeated exposure to words they are trying to learn in a variety of contexts. When students make multiple connections between new words and their own experiences they develop a nuanced and flexible understanding of the word. In this way, students learn not only what a word means, but how to use that word in a variety of contexts and apply appropriate senses of the word's meaning in order to understand different contexts.[34]

Initially children readily learn words from oral conversation because oral conversations are context rich in ways that aid in vocabulary acquisition: in discussion a small set of words (accompanied by gesture and intonation) is used with great frequency to talk about a narrow range of situations children are exposed to on a day to day basis. Yet as children reach school age, new words are less frequently introduced in conversation, and consequently vocabulary acquisition eventually stagnates by fourth or fifth grade unless students acquire additional words from written context.[35]

Written language, by contrast, contains hundreds of times as many different words as are typically used in conversational language. Yet writing lacks the interactive opportunities and nonverbal context provided by oral conversation so it presents a special challenge towards successful vocabulary acquisition without purposeful and ongoing concentration on vocabulary.[36] In fact, at most, between five and fifteen percent of new words encountered when reading are retained.[37] The weaker a student's vocabulary is, the slighter the gain.[38] Yet research shows that if students are going to understand what they read, they must understand upward of 95 percent of the words. [39]

As this "tipping point" for lexical dexterity is quite challenging for students to reach, every classroom needs to focus on providing students with high quality contextual encounters with vocabulary words that epitomize what they encounter in written texts. The aim should be to expose students to words that have the widest application---- concepts that students are likely to meet again and again not just in classroom settings but outside the school walls as well. Some of these highly transferable academic words, often referred to as Tier 2 words, such as qualifying adjectives and adverbs (e.g., important, typically) are used broadly across domains and indeed in contexts that transcend the classroom.[40] However, the meanings of most words are specific to their domains—often referred to as Tier 3 words—including those that arise in multiple domains (e.g., chemical constituents, constituent voting patterns). To learn words, students have to read multiple selections from multiple authors within key domains of learning.

The problem is that, in any given instance, it is not the entire spectrum of a word's history, meanings, usages, and features that matters, but only those aspects that are relevant to the surrounding context. That means, first, that the reader's internal representation of the word must be sufficiently complete and well-articulated so that the intended meaning is available and, second, that the reader must understand the context well enough to select the intended meaning – which, in turn, depends on good understanding of the surrounding words of the passage.

Key to students' vocabulary development is building rich and flexible word knowledge. Students need plentiful opportunities to use and respond to the words they learn, through playful informal talk, discussion, and reading or being read to and responding to what is read. Along with attention to academic (Tier 2 words) and content-specific words (Tier 3 words), students benefit from instruction about the connections and patterns in language. Developing in students an analytical attitude toward the logic and sentence structure of their texts alongside an awareness of word parts, word origins, and word relationships provides students with a sense of how language works so that syntax, morphology and etymology can become useful cues to word in building meaning as students encounter new words and concepts in their reading.[41] As students are exposed to and interact with language throughout their school careers, they are able to acquire understandings of word meanings, build awareness of the workings of language, and apply word meanings to comprehend and produce language.

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[33] Adams, M. (2009). "The Challenge of Advanced Texts: The Interdependence of Reading and Learning," in Hiebert (Ed.), Reading more, reading better: Are American students reading enough of the right stuff?, New York: Guilford Publications.

[34] Landauer, TK, McNamara, DS, Dennis, S and Kintsch, W (2007) Handbook of Latent Semantic Analysis; Landauer, T. K., & Dumais, S. T. (1997). A solution to Plato's problem: The latent semantic analysis theory of acquisition, induction, and representation of knowledge. *Psychological Review, 104(2)*, 211-240; Nagy, W. E., Herman, P., & Anderson, R. C. (1985). Learning words from context. *Reading* Research Quarterly, 20, 233-253.

[35] Hayes, D and Ahrens, M: "Vocabulary simplification for children: A special case of "motherese?" Journal of Child Language, Vol 15(2), Jun 1988, 395-410

[36] Ibid.

[37] Ibid.

[38] Daneman & Green, 1986; Herman, Anderson, Person &Nagy, 1987; Sternberg & Powell

[39] Betts, E. A. (1946). *Foundations of reading instruction*. New York, NY: American Book Company; Carver, R. P. (1994). Percentage of unknown vocabulary words in text as a function of the relative difficulty of the text: Implications for instruction. *Journal of Reading Behavior, 26*, 413-437; Hu, M., & Nation, P. (2000). Unknown vocabulary density and reading comprehension. *Reading in a Foreign Language, 13(1)*, 403-430; Laufer, B. (1988). What percentage of text-lexis is essential for comprehension. In C. Lauren & M. Nordmann (Eds.), *Special language: From humans to thinking machines*, pp. 316-323. Clevedon, UK: Multilingual Matters.

[40] Indeed, the fact that these words transcend specific disciplines argues for them being taught and used across the curriculum by all teachers.

[41] Beck, I. L., McKeown, M. & Kucan, L. (2008). *Creating robust vocabulary: Frequently asked questions and extended examples.*

APPENDIX B

Exemplars of Reading Text Complexity and Quality, ELA K–12

Selecting Text Samples

The following text samples primarily serve to exemplify the level of complexity and quality that the *Standards* require all students in a given grade band to engage with while additionally suggesting the breadth of text types that students should encounter. The choices should serve as useful guideposts in helping educators select texts of similar **complexity**, **quality**, and **breadth** for their own classrooms. The process of text selection was guided by these criteria in the following fashion:

- *Complexity.* Appendix A describes in detail a three-part model of measuring text complexity based on qualitative and quantitative indices of inherent text difficulty balanced with educators' professional judgment. In selecting texts to serve as exemplars, the work group began by soliciting contributions from teachers, educational leaders, and researchers who have experience working with students in the grades for which the texts have been selected. These contributors were asked to propose texts that they or their colleagues have used successfully with students in a given grade band. The work group made final selections based in part on whether qualitative and quantitative measures identified by the *Standards* indicated that the proposed texts were of sufficient complexity for the grade band. For those types of texts—particularly poetry and multimedia sources—for which these measures are not as well suited, professional judgment necessarily played a greater role in selection.

- *Quality.* While it is possible to have high-complexity texts of low inherent quality, the work group solicited only texts of recognized value. From the pool of submissions gathered from outside contributors, the work group selected classic or historically significant texts as well as contemporary works of comparable literary merit, cultural significance, and/or content richness.

- *Breadth.* After identifying texts of appropriate complexity and quality, the work group applied a range of secondary criteria to ensure that the samples presented in each band represented as broad a range of sufficiently complex, high-quality texts as possible. Among the factors considered were initial publication date, authorship, and subject matter.

Copyright and Permissions

For those exemplar texts not in the public domain, the work group is seeking permission from the rights holders for limited use by the Common Core State Standards Initiative of the National Governors Association.

While we await permissions grants from the rights holders, we will make use of texts under a conservative interpretation of Fair Use, which allows limited, partial use of copyrighted text for a nonprofit, educational purpose as long as that purpose does not impair the rights holder's ability to seek a fair return for his or her work.

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Organization and Excerpting

Texts are organized first by category, with narrative texts followed by drama and poetry and then the informational texts. Within each category, the texts are organized by date, usually of first publication, beginning with the oldest and ending with the most recent. In some cases, the date of any given work may be open to debate.

The excerpts given here are meant to stand in for the full work in most instances. Works that are not in the public domain may be represented by short excerpts or snippets while the work group awaits permission from the rights holders for full use.

Media Texts

Selected excerpts are accompanied by annotated links to related media texts available online at the time of the publication of this document.

Kindergarten to Grade 1 Exemplar Texts

Narratives

Little Bear by Else Holmelund Minarik, illustrated by Maurice Sendak (1957)

Are You My Mother? by P. D. Eastman (1960)

The Fire Cat by Esther Averill (1960)

Green Eggs and Ham by Dr. Seuss (1960)

Put Me in the Zoo by Robert Lopshire (1960)

Frog and Toad Together by Arnold Lobel (1971)

Owl at Home by Arnold Lobel (1975)

Henry and Mudge: The First Book of Their Adventures by Cynthia Rylant, illustrated by Suçie Stevenson (1987)

Poppleton in Winter by Cynthia Rylant, illustrated by Mark Teague (2001)

Cowgirl Kate and Cocoa by Erica Silverman, illustrated by Betsy Lewin (2005)

Poetry

"Mix a Pancake" by Christina G. Rossetti (1893)

"Singing-Time" by Rose Fyleman (1919)

"Halfway Down" by A. A. Milne (1924)

"As I Was Going to St. Ives" by Unknown, collected by Peter and Iona Opie (1951)

"Drinking Fountain" by Marchette Chute (1957)

"Poem" by Langston Hughes (1958)

"Wouldn't You?" by John Ciardi (1961)

"In the Falling Snow" by Richard Wright (1973)

"Covers" by Nikki Giovanni (1980)

"It Fell in the City" by Eve Merriam (1985)

"Celebration" by Alonzo Lopez (1993)

"Two Tree Toads" by Jon Agee (2009)

Informational Texts

A Tree Is a Plant by Clyde Robert Bulla, illustrated by Stacey Schuett (1960)

My Five Senses by Aliki (1962)

Starfish by Edith Thacher Hurd, illustrated by Robin Brickman (1962)

What Do You Do With a Tail Like This? by Steve Jenkins & Robin Page (2003)

From Seed to Pumpkin by Wendy Pfeffer, illustrated by James Graham Hale (2004)

Mouse in a Meadow by John Himmelman (2005)

Petting Zoo by Dorling Kindersley (2005)

Meet the Meerkat by Darrin Lunde, illustrated by Patricia J. Wynne (2007)

"The Forest in Spring" in National Geographic Young Explorer! April 2009 (2009)

"Our Good Earth" in National Geographic Young Explorer, April 2009 (2009)

Read-Aloud Narratives

The Wonderful Wizard of Oz by L. Frank Baum (1900)

Little House in the Big Woods by Laura Ingalls Wilder, illustrated by Garth Williams (1932)

Mr. Popper's Penguins by Richard Atwater (1938)

Finn Family Moomintroll by Tove Jansson, translated by Elizabeth Portch (1948)

A Story A Story by Gail E. Haley (1970)

The Paper Crane by Molly Bang (1985)

Read-Aloud Poetry

"The Owl and the Pussycat" by Edward Lear (1871)

"April Rain Song" by Langston Hughes (1932)

"The Fox's Foray" – Traditional rhyme in Opie / *The Oxford Nursery Rhyme Book* (1955)

Over in the Meadow by John Langstaff, illustrated by Feodor Rojankovsky (1957)

Zin! Zin! Zin! a Violin by Lloyd Moss, illustrated by Marjorie Priceman (1995)

Read-Aloud Informational Texts

The Year at Maple Hill Farm by Alice and Martin Provensen (1978)

Fire! Fire! by Gail Gibbons (1984)

Follow the Water from Brook to Ocean by Arthur Dorros (1991)

Amazing Whales! by Sarah L. Thomson (2005)

Living Sunlight: How Plants Bring the Earth to Life by Molly Bang & Penny Chisholm, illustrated by Molly Bang (2009)

Grades 2–3 Exemplar Texts

Narratives

My Father's Dragon by Ruth Stiles Gannett, illustrated by Ruth Chrisman Gannett (1948)

Crow Boy by Taro Yashima (1955)

Amos & Boris by William Steig (1971)

The Treasure by Uri Shulevitz (1978)

The Stories Julian Tells by Ann Cameron (1981)

Sarah, Plain and Tall by Patricia MacLachlan (1985)

Tops and Bottoms by Janet Stevens (1995)

The Raft by Jim LaMarche (2000)

The Lighthouse Family: The Storm by Cynthia Rylant, illustrated by Preston McDaniels (2002)

The One-Eyed Giant (Book One of Tales from the Odyssey) by Mary Pope Osborne (2002)

Poetry

"Autumn" by Emily Dickinson (1893)

"Who Has Seen the Wind" by Christina G. Rossetti (1893)

"Afternoon on a Hill" by Edna St. Vincent Millay (1917)

"Stopping by Woods on a Snowy Evening" by Robert Frost (1923)

"Something Told the Wild Geese" by Rachel Field (1934)

"Grandpa's Stories" by Langston Hughes (1958)

"A Bat Is Born" by Randall Jarrell (1964)

"Knoxville, Tennessee" by Nikki Giovanni (1968)

"Weather" by Eve Merriam (1969)

"Eating While Reading" by Gary Soto (1995)

Informational Texts

A Medieval Feast by Aliki (1983)

Maps & Globes by Jack Knowlton, pictures by Harriet Barton (1985)

Sunshine Makes the Seasons by Franklyn M. Branley (1985)

From Seed to Plant by Gail Gibbons (1991)

Throw Your Teeth on the Roof: Tooth Traditions Around the World by Selby B. Beeler, illustrated by G. Brian Karas (1998)

So You Want to Be President? By Judith St.George, illustrated by David Small (2000)

Boy, Were We Wrong About Dinosaurs by Kathleen V. Kudlinski, illustrated by S.D. Schindler (2005)

Bat Loves the Night by Nicola Davies, illustrated by Sarah Fox-Davies (2008)

Moonshot: The Flight of Apollo 11 by Brian Floca (2009)

Where Do Polar Bears Live? by Sarah L. Thomson, illustrated by Jason Chin (2010)

Read-Aloud Narratives

"How the Camel Got His Hump" in *Just So Stories* by Rudyard Kipling (1902)

The Thirteen Clocks by James Thurber (1950)

The Cricket in Times Square by George Selden, illustrated by Garth Williams (1960)

The Search for Delicious by Natalie Babbitt (1969)

Bud, Not Buddy by Christopher Paul Curtis (1999)

Read-Aloud Poetry

"The Jumblies" by Edward Lear (1871)

"The Pied Piper of Hamelin" by Robert Browning (1888)

"Your World" by Georgia Douglas Johnson (1918)

"The Song of the Jellicles" by T.S. Eliot (1939)

"Fireflies" by Paul Fleischman, illustrated by Eric Beddows (1988)

Read-Aloud Informational Texts

Lincoln: A Photobiography by Russell Freedman (1987)

A Drop of Water: A Book of Science and Wonder by Walter Wick (1997)

The Museum Book: A Guide to Strange and Wonderful Collections by Jan Mark, illustrated by Richard Holland (2007)

What the World Eats by Faith D'Aluisio, photographed by Peter Menzel (2008)

Wild Tracks! A Guide to Nature's Footprints by Jim Arnosky (2008)

Grades 4–5 Exemplar Texts

Narratives

Alice in Wonderland by Lewis Carroll (1865)

The Secret Garden by Frances Hodgson Burnett (1911)

The Black Stallion by Walter Farley (1941)

The Little Prince by Antoine de Saint-Exupery (1943)

Tuck Everlasting by Natalie Babbitt (1975)

"Zlateh the Goat" by Isaac Bashevis Singer (1984)

M. C. Higgins, the Great by Virginia Hamilton (1993)

The Birchbark House by Louise Erdrich (1999)

Bud, Not Buddy by Christopher Paul Curtis (1999)

[Also a read-aloud narrative at Grades 2–3]

Where the Mountain Meets the Moon by Grace Lin (2009)

Poetry

"The Echoing Green" from *Songs of Innocence* by William Blake (1789)

"The New Colossus" by Emma Lazarus (1883)

"Casey at the Bat" by Ernest Lawrence Thayer (1888)

"A Bird Came Down the Walk" by Emily Dickinson (1893)

"Fog" by Carl Sandburg (1916)

"Dust of Snow" by Robert Frost (1923)

"Little Red Riding Hood and the Wolf" by Roald Dahl (1982)

"They Were My People" by Grace Nichols (1988)

"Words Free As Confetti" by Pat Mora (1996)

Informational Texts

Discovering Mars by Melvin Berger (1992)

Let's Investigate Marvelously Meaningful Maps by Madelyn Wood Carlisle (1992)

Hurricanes: Earth's Mightiest Storms by Patricia Lauber (1996)

The Kid's Guide to Money by Steve Otfinoski (1996)

Toys: Amazing Stories behind Some Great Inventions by Don Wulffson (2000)

"Good Pet, Bad Pet" by Elizabeth Schleichert from *Ranger Rick* (2002)

"Ancient Mound Builders" by E. Barrie Kavash from *Cobblestone* (2003)

About Time: A First Look at Time and Clocks by Bruce Koscielniak (2004)

England the Land by Erinn Banting (2004)

A History of US by Joy Hakim (2005)

My Librarian Is a Camel by Margriet Ruurs (2005)

Horses by Seymour Simon (2006)

Quest for the Tree Kangaroo by Sy Montgomery (2006)

Volcanoes by Seymour Simon (2006)

We Are the Ship: The Story of Negro League Baseball by Kadir Nelson (2008)

"Kenya's Long Dry Season" by Nellie Gonzalez Cutler from *Time for Kids* (2009)

"Seeing Eye to Eye" by Leslie Hall from *National Geographic Explorer* (2009)

"Computer" from *Britannica Junior Encyclopedia* (2010)

"Telescopes" by Ronan, Colin A. from *The New Book of Knowledge* (2010)

"Underground Railroad" by Henrietta Buckmaster from *The New Book of Knowledge* (2010)

Grades 6–8 Exemplar Texts

Narratives

Little Women by Louisa May Alcott (1869)

The Adventures of Tom Sawyer by Mark Twain (1876)

A Wrinkle in Time by Madeline L'Engle (1962)

The Dark is Rising by Susan Cooper (1973)

Dragonwings by Laurence Yep (1975)

Roll of Thunder, Hear My Cry by Mildred Taylor (1976)

"The People Could Fly" from *The People Could Fly: American Black Folktales* by Virginia Hamilton (1985)

The Tale of the Mandarin Ducks by Katherine Paterson (1990)

"Eleven" from *Woman Hollering Creek: And Other Stories* by Sandra Cisneros (1992)

Black Ships Before Troy: The Story of the Iliad by Rosemary Sutcliff (1993)

Drama

A Midsummer Night's Dream by William Shakespeare (1596)

The Diary of Anne Frank by Frances Goodrich and Albert Hackett (1958)

Poetry

"Paul Revere's Ride" by Henry Wadsworth Longfellow (1861)

"O Captain, My Captain" by Walt Whitman (1865)

"Jabberwocky" by Lewis Carroll (1872)

"Twelfth Song of Thunder" from *The Mountain Chant: A Navajo Ceremony* Navajo tradition (1887)

"The Railway Train" by Emily Dickinson (1893)

"The Song of Wandering Aengus" by W. B. Yeats (1899)

"Chicago" from *Chicago Poems* (1914) by Carl Sandburg

"Stopping by a Wood on a Snowy Evening" by Robert Frost (1923)

"I, Too" by Langston Hughes (1925)

"The Book of Questions" by Pablo Neruda (1973) translated by William O'Daly

"Oranges" from *Black Hair* (1985) by Gary Soto

"A Poem for My Librarian, Mrs. Long" from *Acolytes* (2007) by Nikki Giovanni

Informational Texts (English Language Arts)

"Allegory of the Cave" from *The Republic* by Plato (380 BCE) translated by G.M.A. Grube

"Letter on Thomas Jefferson" by John Adams (1822)

Narrative of the Life of Frederick Douglass an American Slave by Frederick Douglass (1845)

"Gettysburg Address" by Abraham Lincoln (1863)

"Lee Surrenders to Grant" by Horace Porter (1865)

"Blood, Toil, Tears and Sweat" by Winston Churchill (1940)

Travels with Charley: In Search of America by John Steinbeck (1962)

"Address to the Nation on Civil Rights" by John F. Kennedy (1963)

I Know Why the Caged Bird Sings by Maya Angelou (1969)

"Address to Students at Moscow State University" by Ronald Reagan (1988)

Grades 9-10 Exemplar Texts

Narratives

The Odyssey by Homer (8th century B.C.E.) translated by Robert Fagles

"The Nose" by Nikolai Gogol (1836) translated by Ronald Wilks

"The Gift of the Magi" by O. Henry (1906)

The Grapes of Wrath by John Steinbeck (1939)

Fahrenheit 451 by Ray Bradbury (1953)

"I Stand Here Ironing" by Tillie Olsen (1956)

The Killer Angels by Michael Shaara (1975)

The Joy Luck Club by Amy Tan (1989)

In the Time of the Butterflies by Julia Alvarez (1994)

The Book Thief by Marcus Zusak (2005)

Drama

The Tragedy of Romeo and Juliet by William Shakespeare (1592)

The Glass Menagerie by Tennessee Williams (1944)

Rhinoceros by Eugene Ionesco (1959) translated by Derek Prouse

Master Harold...and the Boys by Athol Fugard (1982)

Poetry

"Song" by John Donne (1635)

"Ozymandias" by Percy Bysshe Shelley (1810)

"The Raven" by Edgar Allen Poe (1845)

"We Grow Accustomed to the Dark" by Emily Dickinson (1893)

"Loveliest of Trees" by A. E. Houseman (1896)

"Lift Ev'ry Voice and Sing" by James Weldon Johnson (1900)

"Domination of Black" by Wallace Stevens (1916)

"Yet Do I Marvel" by Countee Cullen (1925)

"Women" by Alice Walker (1970)

"I Am Offering This Poem to You" by Jimmy Santiago Baca (1977)

Informational Texts (English Language Arts)

"Preface to Lyrical Ballads" by William Wordsworth (1800)

"Speech to the Second Virginia Convention" by Patrick Henry (1775)

"Second Inaugural Address" by Abraham Lincoln (1865)

"State of the Union Address" by Franklin Delano Roosevelt (1941)

"I Am an American Day Address" by Learned Hand (1944)

"Remarks to the Senate in Support of a Declaration of Conscience" by Margaret Chase Smith (1950)

"Address at the March on Washington" by Martin Luther King, Jr. (1963)

"Nobel Prize Acceptance Speech" by Elie Wiesel (1986)

"A Quilt of a Country" by Anna Quindlen (2001)

Grades 11-12 Exemplar Texts

Narratives

Pride and Prejudice by Jane Austen (1813)

Jane Eyre by Charlotte Brontë (1848)

"At Home" by Anton Chekov (1887) translated by Constance Garnett

The Great Gatsby by F. Scott Fitzgerald (1925)

As I Lay Dying by William Faulkner (1930)

Their Eyes Were Watching God by Zora Neale Hurston (1937)

Black Boy by Richard Wright (1945)

The Adventures of Augie March by Saul Bellow (1949)

The Bluest Eye by Toni Morrison (1970)

Dreaming in Cuban by Cristina García (1992)

The Namesake by Jhumpa Lahiri (2003)

Drama

Macbeth by William Shakespeare (c1611)

The Importance of Being Earnest by Oscar Wilde (1895)

Death of a Salesman by Arthur Miller (1949)

A Raisin in the Sun by Lorraine Hansberry (1959)

Poetry

"A Valediction Forbidding Mourning" by John Donne (1633)

"Ode on a Grecian Urn" by John Keats (1820)

"Song of Myself" from *Leaves of Grass* by Walt Whitman (c1860)

"Because I Could Not Stop for Death" by Emily Dickinson (1890)

"Mending Wall" by Robert Frost (1914)

"Ode to My Suit" by Pablo Neruda (1954) translated by Margaret Sayers Peden

"Sestina" by Elizabeth Bishop (1983)

"The Latin Deli: An Ars Poetica" by Judith Ortiz Cofer (1988)

"Demeter's Prayer to Hades" by Rita Dove (1995)

"Man Listening to Disc" by Billy Collins (2001)

Informational Texts (English Language Arts)

The Declaration of Independence by Thomas Jefferson (1776)

The Crisis by Thomas Paine (1776)

Walden by Henry David Thoreau (1854)

"Society and Solitude" by Ralph Waldo Emerson (1857)

"The Fallacy of Success" by G.K. Chesterton (1909)

The American Language by H.L. Mencken (1938)

"Politics and the English Language" by George Orwell (1946)

"Abraham Lincoln and the Self-Made Myth" by Richard Hofstadter (1948)

"Letter from Birmingham City Jail" by Martin Luther King, Jr. (1963)

"Mother Tongue" by Amy Tan (1990)

"Take the Tortillas Out of Your Poetry" by Rudolfo Anaya (1995)

Appendix B2: Draft Standards in ELA and Mathematics

The Common Core K–12 Mathematics Standards

This document provides grade level standards for mathematics in grades K–8, and high school standards organized under the headings of the *College and Career Readiness Standards in Mathematics*. Students reaching the readiness level described in that document (adjusted in response to feedback) will be prepared for non-remedial college mathematics courses and for training programs for career-level jobs. Recognizing that most students and parents have higher aspirations, and that ready for college is not the same as ready for mathematics-intensive majors and careers, we have included in this document standards going beyond the readiness level. Most students will cover these additional standards. Students who want the option of entering STEM fields will reach the readiness level by grade 10 or 11 and take precalculus or calculus before graduating from high school. Other students will go beyond readiness through statistics to college. Other pathways can be designed and available as long as they include the readiness level. The final draft of the K–12 standards will indicate which concepts and skills are needed to reach the readiness level and which go beyond. We welcome feedback from states on where that line should be drawn.

English Language Learners in Mathematics Classrooms

English language learners (ELLs) must be held to the same high standards expected of students who are already proficient in English. However, because these students are acquiring English language proficiency and content area knowledge concurrently, some students will require additional time and all will require appropriate instructional support and aligned assessments.

ELLs are a heterogeneous group with differences in ethnic background, first language, socio-economic status, quality of prior schooling, and levels of English language proficiency. Effectively educating these students requires adjusting instruction and assessment in ways that consider these factors. For example ELLs who are literate in a first language that shares cognates with English can apply first-language vocabulary knowledge when reading in English; likewise ELLs with high levels of schooling can bring to bear conceptual knowledge developed in their first language when reading in a second language. On the other hand, ELLs with limited or interrupted schooling will need to acquire background knowledge prerequisite to educational tasks at hand. As they become acculturated to US schools, ELLs who are newcomers will need sufficiently scaffolded instruction and assessments to make sense of content delivered in a second language and display this content knowledge.

While some ELLs are economically and educationally advantaged, this is not the case for many of these students. Moreover, once in the U.S., the majority of ELLs attend high poverty schools with high percentages of other ELLs. These schools often lack the resources and capacity needed to help ELLs reach high academic standards. However, schools and districts can be assisted in providing a positive learning environment that capitalizes on the linguistic and cultural diversity of the student body.

Language proficiency is a complex construct that can reflect proficiency in multiple contexts, modes, and academic disciplines. Current measures of language proficiency may not give an accurate picture of an individual's language competence. In particular, we do not have measures or assessments for language proficiency related to competence in mathematics for different ages or mathematical topics. These two facts can confuse discussions of mathematics instruction for ELLs. In particular, because of the complexity of language proficiency and the limitations of the label "English Language Learner" as currently implemented, instructional decisions should not be made solely based on that label. However, research on language and mathematics education for this student population does provide a few clear results to guide practices for teaching ELLs mathematics:

- English learners can participate in mathematical discussions as they learn English (Moschkovich, 1999a, 2002, 2007a, 2007b, 2007d).

- Mathematics instruction for students who are learning English should draw on multiple resources and modes available in classrooms—such as objects, drawings, inscriptions, and gestures—as well as home languages and mathematical experiences outside of school.

- While mathematics instruction for ELLs should address mathematical discourse and academic language, this involves much more than vocabulary instruction.

Basic principles for improving the mathematics achievement of ELLs

Language is a resource for learning mathematics, it is not only a tool for communicating, but also a tool for thinking and reasoning mathematically. All languages (English, Spanish, Tagalog,etc.) and language varieties (different dialects, home or everyday ways of talking, vernacular, slang, etc.) provide resources for mathematical thinking, reasoning, and communicating.

Regular and active participation in the classroom—not only reading and listening but also discussing, explaining, writing, representing, and presenting—is crucial to ELLs' success in mathematics, and that ELLS can produce explanations, presentations, etc. and participate in classroom discussions *as they are learning English* (Moschkovich, 1999 and 2007).

- ELLs, like English-speaking students, require regular access to teaching practices that are most effective for improving student achievement. These practices include: a) Keeping mathematical tasks at high-cognitive demand (Henningsen & Stein, 1997; Silver & Stein, 1996); b) teachers and students attend explicitly to concepts (Hiebert & Grouws, 2007), and c) students wrestle with important mathematics (Hiebert & Grouws, 2007).
- See the evidence of ELLs' mathematical thinking, hear how ELLs use language to communicate about mathematics, understand the competence that ELLS bring to the classroom, build on this competence, and provide access to opportunities for advancing their mathematics learning.

Overall, research suggests that:

- Classroom instruction should allow bilingual students to choose the language they prefer for arithmetic computation. Language switching can be swift, highly automatic, and facilitate rather than inhibit solving word problems in the second language, as long as the student's language proficiency is sufficient for understanding the text of the word problem.
- Instruction should ensure that students understand the text of word problems before they attempt to solve them.
- Instruction should include a focus on "mathematical discourse" and "academic language" because these are important for English learners. Although it is crucial that students who are learning English have opportunities to communicate mathematically, this is not primarily a matter of learning vocabulary. Students learn to participate in mathematical reasoning, not by learning vocabulary, but by making conjectures, presenting explanations, and/or constructing arguments.
- While vocabulary instruction is important, it is not sufficient for supporting mathematical communication. Furthermore, vocabulary drill and practice are not the most effective instructional practices for learning vocabulary. Instead, research has demonstrated that vocabulary learning occurs most successfully through instructional environments that are language-rich, actively involve students in using language, require that students both understand spoken or written words and also express that understanding orally and in writing, and require students to use words in multiple ways over extended periods of time (Blachowicz, Camille, and Peter Fisher, 2000). To develop written and oral communication skills, students need to participate in negotiating meaning for mathematical situations and in mathematical practices that require output from students (Moschkovich, 2009).

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Appendix B2: Draft Standards in ELA and Mathematics

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Access for Students with Disabilities

The Common Core Standards articulate rigorous expectations in the areas of mathematics, reading, writing, and speaking and listening in order to prepare students to be college- and career-ready. These standards identify the knowledge and skills students must acquire in order to be successful. Research shows that students with disabilities are capable of high levels of learning and should not be limited by low expectations and watered down curriculum. It is imperative that these highly capable students—regardless of their disability—are held to the same expectations articulated in the Core Standards as other students.[1]

However, *how* these high standards are taught is of the utmost importance in reaching students with special needs. When learning the knowledge and skills represented in the Core Standards, students with disabilities may need accommodations or—in exceptional cases—modified goals, incorporated in an individualized education program (IEP),[2] to help them access information or demonstrate their knowledge. Students might be precluded from reaching particular standards given the nature of the standard itself. In instances when a standard asks students to perform actions they are physically incapable of, students will need to be presented with alternative options to demonstrate similar knowledge and skills within the range of their abilities. Accommodations based on individual needs allow students of all disability levels to learn within the framework of the Core.

Meeting English Language Arts (ELA) Standards

Reading, writing, speaking, and listening standards often require accommodations for students with disabilities. In the case of students who are deaf, a standard that calls for "listening" should be interpreted to include reading sign language. In a similar vein, "speaking" as it occurs in standards for certain students with speech impairments should be read broadly to include "communication" or "self-expression." Students who are blind or have low vision should be able to read via Braille, screen reader technology, or other assistive technology to demonstrate their comprehension

[1] Research suggests that the vast majority of the population of students with intellectual impairments *can* achieve proficiency when they receive high quality instruction in the grade-level content and appropriate accommodations.
[2] According to the Individuals with Disabilities Act (IDEA), an IEP includes appropriate accommodations that are necessary to measure the individual achievement and functional performance of a child.

skills. "Writing" should not preclude the use of a scribe, computer, or speech-to-text technology for students with disabilities that interfere with putting pen to paper. In the case of students with intellectual impairments—less than 2 percent of the total population of all students and less than 20 percent of students with disabilities—accommodations should allow them to demonstrate their knowledge and skills through alternative modes like text to speech software or reading aloud. For these students, writing may involve the use of pictures to assist in illustrating plot or argument, or offering them the opportunity to "choose words and phrases" by selecting from options rather than generating direct answers. With appropriate accommodations and support, students with all levels of disabilities can participate in the general education curriculum and achieve grade-level proficiency with regard to the ELA content and skills articulated in the Core.

Meeting Mathematics Standards

In curriculum for students with disabilities, ELA skills often take precedence over mathematics understanding. However, most of these students can master mathematical concepts with accommodations in instructional delivery and the use of specialized technology, including computers and calculators. For example, students with visual disabilities might require enhanced verbal descriptions from teachers and the use of large-print to demonstrate subsequent knowledge. Students who are deaf might require visual aids such as charts, diagrams, and mental images and increased reliance on computers and calculators. Manipulatives can enable students with intellectual impairments to grasp abstract concepts and continue learning. Evidence suggests that students with disabilities, even those with full intellectual abilities, tend to lag behind their peers in mathematics achievement; strong curriculum that gives equal priority to mathematics and ELA will help these students succeed.

In short, while the standards remain and retain high expectations of students, they may need to be translated and occasionally modified to appropriately apply to students with disabilities, including all levels of intellectual impairment. Every student deserves to be treated with respect, and every student deserves an outstanding education. Promoting a culture of high expectations for all students is a fundamental goal of the Core Standards. Reaching students with disabilities requires broadening our understanding of what the standards say and being ready to make appropriate accommodations and/or modifications to meet individual students' needs.

How to read this document

The K–8 standards are organized by grade level. Within each grade level there are several headings, each one the title of a single progression having significant presence in the grade in question. Under each of these progression headings, there appear **core standards**, divided into standards describing concepts students should understand and standards describing skills students should acquire. A typical progression spans a number of grades, but does not span all of K-8. The progressions and their grade spans are listed at the end of the document.

The high school standards are not organized by grade level or by course, but rather are organized under headings of the *College and Career Ready Standards for Mathematics*: Expressions, Equations, Functions, Coordinates, Modeling, Statistics, Probability, and Geometry.[3] Subheadings under each heading refer either to mathematical practices or to principle topics, and core standards are listed under each subheading, as in the K-8 standards. The subheadings are not necessarily curricular units, but rather can describe concepts and skills that are revisited throughout a student's high school career. This design necessitates a future effort to develop course sequences (either traditional or integrated).

[3] Number and Quantity are not included, since they are principally the domain of K–8. In response to feedback, the headings have been reordered and Shape has been renamed to Geometry.

Appendix B2: Draft Standards in ELA and Mathematics

Mathematical Practice[4]

Proficient students expect mathematics to make sense. They take an active stance in solving mathematical problems. When faced with a non-routine problem, they have the courage to plunge in and try something, and they have the procedural and conceptual tools to carry through. They are experimenters and inventors, and can adapt known strategies to new problems. They think strategically.

Students who engage in these practices discover ideas and gain insights that spur them to pursue mathematics beyond the classroom walls. They learn that effort counts in mathematical achievement.[a] These are practices that expert mathematical thinkers encourage in apprentices. Encouraging these practices in our students should be as much a goal of the mathematics curriculum as is teaching specific content topics and procedures.[b] Taken together with the Standards for Mathematical Content, they support productive entry into college courses or career pathways.

Core Standards · Students can and do:

1 Attend to precision.

Mathematically proficient students organize their own ideas in a way that can be communicated precisely to others, and they analyze and evaluate others' mathematical thinking and strategies noting the assumptions made. They clarify definitions. They state the meaning of the symbols they choose, are careful about specifying units of measure and labeling axes, and express their answers with an appropriate degree of precision. Rather than saying, "let v be speed and let t be time," they would say "let v be the speed in meters per second and let t be the elapsed time in seconds from a given starting time." They recognize that when someone says the population of the United States in June 2008 was 304,059,724, the last few digits indicate unwarranted precision.

2 Construct viable arguments.

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 break things down into cases and can recognize and use counterexamples. They use logic to 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.

3 Make sense of complex 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 consider analogous problems, try special cases and work on simpler forms. They evaluate their progress and change course if necessary. They try putting algebraic expressions into different forms or try changing the viewing window on their calculator to get the information they need. They look for correspondences between equations, verbal descriptions, tables, and graphs. They draw diagrams of relationships, graph data, search for regularity and trends, and construct mathematical models. They check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?"

4 Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern. For example, in $x^2 + 5x + 6$ they can see the 5 as $2 + 3$ and the 6 as 2×3. They recognize the significance of an existing line in a geometric figure and can add an auxiliary line to make the solution of a problem clear. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects. For example, by seeing $5 - 3(x$

[4] Slated for review and editing, based on feedback to the College and Career Readiness Standards, and in order to apply more naturally to elementary school as well.

$- y)^2$ as 5 minus a positive number times a square, they see that it cannot be more than 5 for any real numbers x and y.[b]

5 Look for and express regularity in repeated reasoning.

Mathematically proficient students pay attention to repeated calculations as they carry them out, and look both for general algorithms and for shortcuts. For example, by paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, they might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel in the expansions of $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ leads to the general formula for the sum of a geometric series. As they work through the solution to a problem, proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.[b]

6 Reason quantitatively.

Quantitative reasoning is a way of thinking by which one reasons with quantities and about relations among quantities. It entails habits of creating a coherent image of the problem at hand; considering the units involved; continually attending to the meaning of quantities, not just how to compute them; and having multiple images of a concept and being flexible in transitioning among them. In problems dealing with quantitative relationships, students exercise two inseparable abilities: 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 referential meanings for the symbols involved in the manipulation.

7 Make strategic decisions about the use of technological tools.

Mathematically proficient students consider the available tools when solving a mathematical problem, whether pencil and paper, ruler, protractor, graphing calculator, spreadsheet, computer algebra system, statistical package, or dynamic geometry software. They are familiar enough with all of these tools to make sound decisions about when each might be helpful. They use mathematical understanding and estimation strategically, attending to levels of precision, to ensure appropriate levels of approximation and to detect possible errors. They are able to use these tools to explore and deepen their understanding of concepts.

Appendix B2: Draft Standards in ELA and Mathematics

Mathematics: Kindergarten[5]

Developing Coherent Understanding

[Temporarily removed for editing.]

Counting and Cardinality

Core Standards · Students understand that:

1. The number words have a standard order.
2. In counting, each object receives one and only one number word.
3. The last number word tells the number of objects.
4. Numbers said later in the count refer to larger quantities.
5. Counting on 1 more is the same as adding 1. That is, one more than a number is the next number in the count.

Core Standards · Students can and do:

a. Count by ones from 1 to 100; count by tens to 100.[6]
b. Count forward from a given number within the known sequence (instead of always counting forward from 1).[7]
c. See collections of up to 10 objects as being composed of subgroups.
d. Count to answer "how many?" questions with up to 10 things in various arrangements (e.g., array, circular, scattered), or up to 25 things if in a row.
e. Write numerals from 1 to at least 30.

Base Ten Computation

Core Standards · Students understand that:

1. Ten ones make a tens unit (ten things can be thought of as bundled into a single unit).
2. Decade words refer to groups of tens units. For example, thirty refers to a group of three tens units.
3. A teen number[8] is a ten and some ones. The number 10 can be thought of as a ten and no ones.
4. Any teen number is larger than any single digit number. Teen numbers are ordered according to their ones digits.
5. A two-digit number is some tens and some ones. For example, 29 is two tens and nine ones.

Core Standards · Students can and do:

a. Make 10 with each number from 1 to 9 (i.e., know the number that makes 10 with the given number).
b. Show each teen number as a ten and some ones.

Early Relations and Operations

Core Standards · Students understand that:

[5] Some material is used verbatim from National Research Council. (2009). *Mathematics Learning in Early Childhood: Paths Toward Excellence and Equity*. Committee on Early Childhood Mathematics, Christopher T. Cross, Tanlesha A. Woods, and Heidi Schweingruber, Editors. Center for Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
[6] To "count" here means only to say the number words, not to determine how many objects are in a collection.
[7] To "count" here means only to say the number words, not to determine how many objects are in a collection.
[8] Glossary: Teen number. A whole number that is greater than or equal to 11 and less than or equal to 19.

1. Adding is putting two groups together or putting some more with a group, and subtracting is taking some from a group.
2. Addition and subtraction can be represented with physical or mental objects (including fingers), pictures, drawings, sounds (e.g. number words), motions, or equations.
3. Adding can be recorded by an expression, as when "three more than six" is recorded as $6 + 3$, or by an equation that also shows the answer ($6 + 3 = 9$). Likewise, subtracting can be recorded by an expression, as when "how much more than 9 is 5" is recorded as $9 - 5$, or by an equation that also shows the answer ($9 - 5 = 4$).
4. Breaking apart a group can be recorded in an equation such as $8 = 5 + 3$. Breaking apart a group in more than one way can be recorded in an equation such as $7 + 6 = 10 + 3$.
5. In all equations, the equals sign indicates that the values on either side are the same.

Core Standards · Students can and do:

a. Use matching and counting strategies to decide whether one set is more than, less than, or equal to another set in number of objects (less than or equal to 10).
b. Compare and order numbers less than or equal to 10.
c. Use concrete objects to determine the answer to addition and subtraction word problems and additions and subtractions with totals less than or equal to 10.
d. Experience enough problem situations so that additions to five and the corresponding subtractions and some additions and subtractions within ten become well known.

Quantity and Measurement

Core Standards · Students understand that:

1. Things have attributes—such as length, weight, capacity, loudness, softness, and so on. A single thing might have several attributes of interest (as when we focus on a child's height and gender).

Core Standards · Students can and do:

a. Directly compare two objects to see which one has "more of" a shared attribute.
b. Rank three objects by a shared attribute (especially length), and use transitivity[9] to compare two objects indirectly.
c. ◆ Classify objects or people into predetermined categories, and count the numbers in each category. List the categories and counts in order by count. (Each category count less than or equal to 10.)[10]

Shapes

Core Standards · Students understand that:

1. Names refer to shapes regardless of orientation or overall size.[11]

Core Standards · Students can and do:

a. Study a range of 2D and 3D shapes, in different sizes and orientations, and discuss their properties, similarities, and differences using informal language.

[9] Glossary: Transitive property of measurement order: If one object is bigger than a second, and the second object is bigger than a third object, then the first object is bigger than the third object.
[10] The symbol ◆ indicates material in data analysis and statistics that appears under another progression heading in order to make an important connection.
[11] For example, a square rotated to form a "diamond" is still a square, even though it is rotated. Students at this grade might need to physically rotate a shape until it is "level" before they can correctly name it.

b. Move shapes using translations, reflections and rotations.[12]

[12] This is not meant to be assessed by showing students a picture of a shape and asking them to draw or select a translated, reflected or rotated version of it.

Mathematics: First Grade[13]

Developing Coherent Understanding

[Temporarily removed for editing.]

Early Relations and Operations

Core Standards · Students understand that:

1. Counting on is an efficient method of counting all, in which the initial count of the first addend is omitted.
2. Addition and subtraction apply to situations of joining, separating, part-part-whole, and comparing quantities to one another.[14] These situations can be represented by addition and subtraction equations such as $7 + 5 = 12$, $10 = 5 + 5$, and so on.
3. Addition and subtraction are inverse operations; that is $10 - 8$ can be found by thinking $8 + 2 = 10$.
4. When any two of the numbers in an addition or subtraction equation are known, the unknown number can be found.
5. One-to-one dealing of objects in a collection (e.g., "One for you, one for me, one for him, …") creates fair shares.

Core Standards · Students can and do:

a. Use counting on strategies or decomposing strategies for additions and subtractions within 20.
b. Solve addition problems containing three addends.
c. Use objects, pictures and story contexts to explain what happens when the order of addends in a sum is changed, when 0 is added to a number, and when one addend in a sum is increased by 1 and another decreased by 1.
d. Experience enough problem situations so that many or all sums and differences within 20 become well known.
e. Use drawings and equations to represent and solve word problems involving addition and subtraction.[15]
f. ♦ Organize, represent and interpret data with several 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
g. Create n fair shares from a collection of objects. Identify the size of one share, and recognize the original collection as n copies of a single share.

Quantity and Measurement

Core Standards · Students understand that:

1. Lengths can be added by placing long objects, rods, or unit cubes end to end in a straight line. The total length is the same in whatever order the rods are placed.

[13] Some material is used verbatim from National Research Council. (2009, op. cit.)
[14] In join and separate problems, there is change over time. In part-part-whole problems, two quantities make up a whole in a static situation. Compare problems involve two quantities and the difference between them. Compare problems add specificity to the notions of greater than and less than.
[15] Include join, separate, part-part-whole, and compare problems, with unknowns in all positions. Represent these situations with equations that use a small square or a ? for the unknown.

2. Lengths can be compared by placing rods side by side, with one end lined up. The difference in length is how far the longer extends beyond the end of the shorter.
3. Lengths are measured (assigned numerical values) by comparing them to other lengths—that is, by using another object as a length unit. The length of an object can be expressed numerically by counting the number of length units that span it with no gaps or overlaps.
4. When an object or figure is decomposed into several pieces, the length of the whole can be found by placing the pieces end to end in any order.
5. A sum of two whole numbers represents a total length; a difference of two whole numbers represents a difference in length.
6. Durations of time are measured by comparing them to other durations of time, such as the earth's rotation period, or the time a minute hand takes to complete a circle around a clock face.

Core Standards · Students can and do:

a. Using an object as a length unit, measure, compare and estimate length.[16]
b. Using an object as a length unit, determine total length by adding lengths of two parts.[17] Compare lengths using addition and subtraction.
c. Decompose circles and rectangles into 2 and 4 equal parts. Describe the parts using the words "halves" and "quarters," and using the phrases "half of" and "quarter of." Describe the wholes as twice or four times as large as the parts.
d. Tell time in hours from clocks; subtract to find whole-hour durations on a clock (within AM or within PM).

Base Ten Computation

Core Standards · Students understand that:

1. In comparing two-digit numbers, the number with more tens units is larger; if the number of tens units is the same in each, the number of ones units decides.
2. In adding or subtracting 2-digit numbers, one adds or subtract like units (tens units and tens units, or ones units and ones units).

Core Standards · Students can and do:

a. Count to 100 or beyond, switching appropriately to the new decade after a 9 has been said in the ones place.
b. Compare and order numbers to 100 based on meanings of the tens and ones places.
c. Easily write numerals to 20; write numerals to 100.
d. Use break-apart and make-a-ten strategies to add and subtract with teen totals as in $7 + 6 = 10 + 3$ and $17 - 9 = 17 - 7 - 2$.
e. Find 10 more or 10 less than a number without having to count.
f. Add one-digit numbers to two-digit numbers, and add multiples of 10 to one-digit and two-digit numbers.
g. Represent addition of two-digit numbers using 10-rods and unit cubes,[18] including rearranging rods and cubes to show regrouping when needed.
h. Add two-digit numbers to two-digit numbers using strategies based on place value, Properties of Arithmetic, or the inverse relationship between addition and subtraction.

Shapes

[16] Select and iterate units, partition into equal parts, and compare lengths indirectly by using a reference length.
[17] Restrict to whole-unit lengths.
[18] Any concrete model that can show individual units and ten connected units will do.

Core Standards · Students understand that:

1. Several shapes can be joined together to form a larger shape. A single shape can also be visualized as a collection of smaller shapes joined together.
2. Decomposing larger shapes into equal-sized parts creates fair shares.
3. When an identical figure is decomposed into more fair shares, the shares are smaller than in the first instance.

Core Standards · Students can and do:

a. Form different 2D figures with cutouts of rectangles, squares, triangles, semicircles, and quarter-circles.[19]
b. Form different 3D figures with concrete models of cubes, rectangular prisms, cones, and cylinders.[20]
c. Decompose 2D shapes into rectangles, squares, triangles, semicircles, and quarter-circles, including decomposing into fair shares.

[19] From Singapore Primary 2
[20] From Singapore Primary 2

Appendix B2: Draft Standards in ELA and Mathematics

Mathematics: Second Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Operations and the Problems They Solve

Core Standards · Students understand that:

1. Addition and subtraction apply to situations of joining, separating, part-part-whole, and comparing quantities to one another.[21] These situations can be represented by addition and subtraction equations such as $17 + 5 = 22$, $36 = 56 - 26$, and so on.
2. Addition and subtraction are inverse operations; that is $100 - 98$ can be found by thinking $98 + 2 = 100$.
3. Numbers can be added and subtracted only when they refer to the same underlying unit.

Core Standards · Students can and do:

a. Use representations (objects, pictures, story contexts) to describe and justify properties of addition and subtraction.[22]
b. Produce full sets of related equations for addition and subtraction, as in the set $5 + 3 = 8$, $3 + 5 = 8$, $8 = 5 + 3$, $8 = 3 + 5$, $8 - 5 = 3$, $8 - 3 = 5$, $3 = 8 - 5$, $5 = 8 - 3$.
c. Solve up to two-step addition/subtraction word problems with whole numbers and whole number quantities within 100.[23]

Base Ten Computation

Core Standards · Students understand that:

1. A three-digit number is made up of hundreds, tens and ones units. Digits in each place are worth ten times as much as digits in the place to the right.
2. Comparison of numbers is decided by the leftmost digit, with subsequent digits breaking ties.
3. Three-digit numbers can be expanded into sums of hundreds, tens and ones units. In adding or subtracting, one adds or subtracts the units of each size; regrouping might be needed to write a total in standard form if there are too many of a unit, or to get enough of a unit to subtract from it.
4. The scheme for regrouping is the same at each place, because each unit is composed of ten of the smaller unit.

Core Standards · Students can and do:

a. Compare and order numbers to 1,000.

[21] In join and separate problems, there is change over time. In part-part-whole problems, two quantities make up a whole in a static situation. Compare problems involve two quantities and the difference between them. Compare problems add specificity to the notions of greater than and less than.
[22] Include properties such as that the sum is the same when multiple addends are added in a different order; if adding two numbers gives a certain sum, then subtracting one of the addends from the sum results in the other addend; that if more is subtracted from a number, the difference is decreased and if less is subtracted the difference is increased; that in an addition problem, each addend can be taken apart and the parts can be recombined in any order without changing the sum.
[23] Include join, separate, part-part-whole, and compare problems, with unknowns in all positions. Represent these situations with equations that use a small square or a ? for the unknown.

b. Given a three-digit number, quickly find 10 more or 10 less than the number, and quickly find 100 more or 100 less than the number.
c. Rapidly add and subtract within 20.[24]
d. Add and subtract three-digit numbers to three-digit numbers using strategies based on place value, Properties of Arithmetic, or the inverse relationship between addition and subtraction.
e. Add and subtract three-digit numbers using an algorithm[25] based on place value and regrouping, such as the standard algorithm.
f. Explain why addition and subtraction strategies and algorithms work, using place value and the Properties of Arithmetic (including explanations supported by drawings or objects).

Quantity and Measurement

Core Standards · Students understand that:

1. 1 inch, 1 foot, 1 centimeter and 1 meter are conventionally defined lengths that allow standardized length measurements.
2. When measuring a length, if a smaller unit is chosen, more units must be iterated to measure the length in those units. But the length of an object itself does not depend on the choice of unit.
3. Units can be decomposed into smaller units, e.g. a foot contains 12 inches and a meter contains 100 centimeters. A small number of long units might form a greater total length than a large number of small units.
4. Sharing a circle or rectangle fairly among 2-6 shares creates equal parts, each of which is a single unit. Copying one unit by the number of pieces measures the whole in terms of the units.
5. A half, a third, or a quarter of a given rectangle encloses the same amount of space regardless of its shape.

Core Standards · Students can and do:

a. Measure, compare and estimate whole-unit lengths in units of inches, feet centimeters and meters.
b. Construct a number line with an origin (0) and a unit (1), marking off whole numbers one unit distance apart. Use a number line to represent sums and differences; determine lengths of intervals on the number line.
c. Decompose circles and rectangles into 2-6 equal parts. Describe the parts using the words "halves," "thirds," "half of," "a third of," etc. Describe the wholes as 2-6 times as large as the parts.
d. Construct a number line to 100 using tens-unit lengths, showing ones-unit lengths within a decade of interest. Explain regrouping by composing and decomposing concrete lengths.
e. ♦ Draw a bar graph (with single-unit scale) to represent a data set with several categories. Solve simple part-part-whole and compare problems using information presented in a bar graph.[26]
f. ♦ Identify correspondences in different representations of a data set with several categories.
g. Solve word problems involving dollar bills, quarters, dimes, nickels and pennies.

Shapes

Core Standards · Students understand that:

[24] Acceptable strategies include: mental strategies such as making a ten, use of fingers to assist in rapid counting-on, and producing sums or differences from memory.
[25] Glossary: Algorithm. A step by step routine that always gives some answer, rather than ever giving no answer; that always gives the right answer, and never gives a wrong answer; that can always be completed in a finite number of steps, rather than in an infinite number of steps; and that applies to all problems of a given type (e.g., adding any two multidigit whole numbers, or bisecting any angle). Cf. Wikipedia's "effective procedure," from which this definition is adapted.
[26] For part-part-whole problems, only sum-unknown problems are required to meet this standard. For compare problems, only difference-unknown problems are required to meet the standard.

Appendix B2: Draft Standards in ELA and Mathematics

1. A given category of shapes (e.g., triangles) can be divided into subcategories (e.g., isosceles triangles) on the basis of special properties. Conversely, different classes of shapes (e.g., squares and rectangles) can be united into a larger category (e.g., quadrilaterals) on the basis of shared properties.

Core Standards · Students can and do:

a. Draw and identify equilateral triangles, isosceles triangles,[27] squares and rectangles.[28]
b. Recognize squares and rectangles as examples of quadrilaterals; draw examples of quadrilaterals that are neither squares nor rectangles.
c. Draw and identify radii and diameters of a circle.
d. Recognize objects that resemble spheres, cylinders and rectangular prisms.

[27] Students at this grade need not understand that equilateral triangles are isosceles.
[28] Students at this grade need not understand that squares are rectangles.

Mathematics: Third Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Operations and the Problems They Solve

Core Standards · Students understand that:

1. Multiplication and division apply to situations of equal grouping, fair sharing, measuring, and comparing ("times as much").
   - An equation of the form $a \times b = n$ applies to a situation in which a groups of b things each make n things in all, or in which a copies of a continuous quantity of size b form a continuous quantity of size n. (See table for examples.)
   - An equation of the form $n \div a = b$ tells how many things, b, are in each group when n things are divided equally into a groups, or tells how large a quantity b results when a continuous quantity of size n is shared fairly into a shares. (See table for examples.)
   - An equation of the form $n \div b = a$ tells how many groups, a, result when n things are divided into equal groups of b things each, or tells how many fair shares, a, a quantity of size n yields when each share has size b. (See table for examples.)
   - Two quantities can be compared by multiplication or division. An equation of the form $a \times b = n$ means n is a times as much as b and b times as much as a.
2. Multiplication is commutative: The total number of things in a groups of b things each is the same as the total number of things in b groups of a things each, that is, $a \times b = b \times a$. Likewise, a copies of a continuous quantity of size b are equal in size to b copies of a continuous quantity of size a.
3. The area of a rectangle with whole number side lengths can be calculated by multiplying because the rectangle can be decomposed into equal rows (or columns) of unit squares.
4. Multiplication and division are inverse operations; that is $35 \div 7$ can be found by thinking $5 \times 7 = 35$. When any two of the numbers in a multiplication or division equation are known, the unknown number can be found.

	$3 \times 6 = 18$	$18 \div 3 = 6$	$18 \div 6 = 3$
Collections	3 rows of apples with 6 apples in each row are 18 apples.	If 18 apples are arranged into 3 equal rows, each row will have 6 apples in it.	If 18 apples are arranged into equal rows of 3 apples, there will be 6 rows.
Continuous Quantities	If you have enough ribbon to make 6 bows, then 3 times as much ribbon will make 18 bows.	If you have enough ribbon to make 18 bows and share the ribbon fairly among 3 kids, then each kid has enough ribbon to make 6 bows.	If each kid wants to make 6 bows and there's enough ribbon to make 18 bows, then 3 kids can make bows.

Core Standards · Students can and do:

Appendix B2: Draft Standards in ELA and Mathematics

a. Use representations (objects, pictures, story contexts) to describe and justify properties of multiplication and division.[29]
b. Solve simple multiplication and division word problems involving equal groups, length and area.
c. Solve up to two-step word problems involving the four operations with whole numbers and whole number quantities. (Whole number quotients only)
d. Solve multiplicative comparison problems with whole numbers (problems involving the notion of "times as much").
e. ♦ Draw a scaled bar graph to represent a data set with several categories. Solve "how many more"/"how many less" problems (two-step problems) using information presented in scaled bar graphs.[30]

Base Ten Computation

Core Standards · Students understand that:

1. Patterns in the multiplication table can be explained by the Properties of Arithmetic. For example, the distributive property explains why, for any row, the entries in the 7 column are the sums of the entries in the 5 and 2 columns.
2. The Properties of Arithmetic can be used to derive new multiplications and divisions from known ones.

Core Standards · Students can and do:

a. Explain strategies for multiplying and dividing that use the Properties of Arithmetic and properties of the base ten system.
b. Rapidly multiply and divide within 100.[31]
c. Produce full sets of fact families for multiplication and division, as in the set $6 \times 7 = 42$, $7 \times 6 = 42$, $42 = 7 \times 6$, $42 = 6 \times 7$, $42 \div 7 = 6$, $42 \div 6 = 7$, $6 = 42 \div 7$, $7 = 42 \div 6$.
d. Find the factor pairs for a given number, as in the factor pairs for the number 42: {42, 1}, {21, 2}, {14, 3}, {7, 6}.

Fractions

Core Standards · Students understand that:

1. When a whole, 1, is divided into b equal parts, the size of the parts is written $1/b$. To show $1/b$ of something, divide the thing into b equal parts.
2. For a whole number a and a positive whole number b, a/b is defined as a copies of $1/b$.[32] This can be thought of as the sum $1/b + 1/b + \ldots + 1/b$ (with a summands).
3. Whole numbers can be written as fractions, as in $b/b = 1$, $n/1 = n$, and cases such as $(4 \times 7)/4 = 7$.
4. Fractions are numbers and can be seen as lengths on a number line.[33]

[29] Include properties such as that the product is the same when the order of the factors is changed; that multiplication problems involving 1-digit numbers can be solved by breaking one factor apart additively and multiplying each part by the other factor; and that multiplying a quantity by a number, then dividing by the same number, leaves the original quantity unchanged.

[30] Include single-unit scales and multiple-unit scales. For multiple-unit scales, all counts should be evenly divisible by the scale factor. No count should represent more than ten of the scale unit, and no scale unit should represent more than ten counts.
[31] A variety of mental strategies are acceptable, including derived fact strategies and producing products or quotients from memory.
[32] This includes fractions greater than 1. For example, 17/5 is 17 copies of 1/5 .
[33] For example, 17/5 is 17 copies of the subinterval 1/5 laid end to end.

5. Two fractions are equal when they represent the same portion of a whole, or when they have the same length on a number line. One fraction is greater than another when it represents a greater portion of the whole than the other, or lies to the right of the other on the number line.
6. Given two unit fractions, the fraction with the larger denominator is smaller, because dividing a whole into a larger number of parts leads to smaller parts.
7. Fractions with the same denominator can be added or subtracted by adding or subtracting the units indicated by the unit fraction. For example, $2/3 + 4/3$ is 2 copies of $1/3$ plus 4 copies of $1/3$, or 6 copies of $1/3$ in all, that is $6/3$.
8. The decimal 0.1 denotes the fraction $1/10$, 0.2 denotes $2/10$, and so on through 0.9, which denotes $9/10$.

Core Standards · Students can and do:

a. Use fractions to describe quantities and parts of wholes.
b. Compare and order fractions with equal numerators or equal denominators, including in contextual situations, using the fractions themselves, bar strip drawings, number line representations, and area models.
c. Reason about fractions to establish equivalences between fractions with unlike denominators 2, 3, 4 and 6 (e.g. $1/2 = 2/4$, $4/6 = 2/3$).
d. Add and subtract fractions with like denominators.
e. Solve word problems that involve adding, subtracting, ordering and comparing fractions.
f. Represent fractions of the form $a/10$ in decimal notation; compare and order to tenths in decimal notation.

Quantity and Measurement

Core Standards · Students understand that:

1. A unit of measure can be partitioned into equal-sized parts, whose sizes can be represented as fractions of the unit.
2. The area of a closed plane figure is a measure of how much space it encloses. A square with side length 1 unit is said to enclose "one square unit" of area.
3. The area of a closed plane figure can be measured (expressed numerically) by the number of square units that fit inside it with no gaps or overlaps.
4. Area is a model for multiplication because tiling a rectangle with unit squares shows that a rectangle a units long by b units wide encloses an area of $a \times b$ square units.

Core Standards · Students can and do:

a. Measure lengths using rulers marked with halves and fourths of inches. Make a dot plot to show repeated measurements.
b. Convert compound units to a smaller or a larger unit, and solve problems involving mixed units (feet and inches, yards and feet).
c. Using customary units, demonstrate and justify correct processes for measuring, comparing, and estimating length, mass, capacity, and durations of time, including unit selection, partitioning and iterating units, and transitivity.
d. Compute perimeters of polygons by adding given side lengths, and find an unknown length in a polygon given the perimeter and all other side lengths. Represent these problems with equations involving a symbol for the unknown quantity.
e. Determine and compare areas by counting square units (improvised units, cm^2, m^2, in^2, ft^2).
f. Compute elapsed time and solve problems involving elapsed time (to the nearest minute).

Appendix B2: Draft Standards in ELA and Mathematics

Mathematics: Fourth Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Operations and the Problems They Solve

Core Standards · Students understand that:

1. Quantities in a problem might be described with whole numbers, fractions or decimals; the operations used to solve the problem depend on the relationships between the quantities whatever numbers are involved.
2. The distributive property (of multiplication over addition) relates addition and multiplication. The distributive property can be shown numerically and visually, using arrays and area models.

Core Standards · Students can and do:

a. Solve multistep word problems involving the four operations with whole numbers.[34]
b. Estimate answers to computations and compute mentally to assess reasonableness of results.
c. Solve problems that involve comparing, ordering, adding and subtracting fractions with like denominators. Compare fractions to benchmark fractions.
d. Solve problems that involve comparing and ordering decimal numbers to hundredths. Compare decimals to benchmark decimals.
e. ♦Make a table from given data, ask and answer questions about data in a table, solve multi-step problems using information presented in tables, and find patterns in tables.[35]

Fractions

Core Standards · Students understand that:

1. The fraction a/b can be written as $a \times 1/b$ because a/b is a copies of $1/b$.
2. When a identical things are divided into b equal parts, each of a things contributes $1/b$. So $a \div b = a/b$.[36]
3. A fraction can be multiplied by a whole number as $n \times a/b = n \times a/b$. For example, $3 \times 2/5$ can be seen as 3 groups of 2 unit fractions $1/5$.[37]
4. A decimal of two digits stands for a sum of fractions whose denominators are 10 and 100. For example, 0.34 stands for $3/10 + 4/100$.

Core Standards · Students can and do:

a. Reason about fractions to establish equivalences between related fractions[38] (e.g. $3/10 = 30/100$, $9/12 = 3/4$).

[34] Use the properties of multiplication (commutative, associative, identity) or the inverse relationship between multiplication and division (multiplying a number by b then dividing by b, and vice versa, leaves the number unchanged) to make sense of single digit multiplication and division situations and solve problems.
[35] Include tables with data from proportional relationships.
[36] This definition agrees with previous understandings of division in cases like $28 \div 7$ (i.e., when a is a multiple of b), but also gives meaning to quotients such as $3 \div 4$ or $7 \div 2$.
[37] Using the Properties of Arithmetic, $n \times a/b = n \times (a \times 1/b) = (n \times a) \times 1/b = (n \times a)/b$.

b. Add and subtract related fractions in simple cases within one whole (e.g. $1/2 + 1/4$, $3/10 + 4/100$).
c. Solve word problems posed with whole numbers that have fractional answers.
d. Represent multiplication of whole numbers by fractions and fractions by whole numbers, using length and area models.
e. Solve word problems involving multiplying fractions by whole numbers and multiplying whole numbers by fractions.[39]
f. Use decimals to hundredths to describe quantities and parts of wholes, compare and order decimals to hundredths, and write fractions of the form $a/10$ or $a/100$ in decimal notation.
g. Round decimals (to hundredths) to the nearest whole number.
h. Solve addition and subtraction story problems involving fractions with related denominators (situations familiar from whole number work).

Base Ten Computation

Core Standards · Students understand that:

1. The product of a one-digit number times a multidigit number is the sum of the products of the one-digit number times each place value component. This is an instance of the distributive property.
2. Multi-digit multiplication algorithms can be derived and explained by decomposing numbers into their place value components and applying the distributive property.
3. Digits in each place are worth ten times as much as digits in the place to the right and a tenth as much as digits to the left; comparison of numbers is decided by the leftmost digit, with subsequent digits breaking ties.
4. Given whole numbers a and b, find whole numbers Q and R so that $a = Q \times b + R$. For example, given 325 and 7, express 325 in the form $325 = 46 \times 7 + 3$.

Core Standards · Students can and do:

a. Demonstrate place value understanding for whole numbers to 1,000,000 and compare numbers within this range.
b. Round whole numbers to the nearest 10 or 100 and use rounding to estimate computations.
c. Multiply single place numbers (to 9000) by single digit numbers.[40]
d. Multiply two-, three- and four-digit numbers by single-digit whole numbers, and multiply two-digit numbers by two-digit numbers, using strategies based on place value, Properties of Arithmetic, or the inverse relationship between multiplication and division.
e. Multiply two-digit numbers by two-digit numbers using an algorithm based on place value and regrouping, such as the standard algorithm.
f. Divide two-, three- and four-digit numbers by single-digit numbers, with or without remainder. In the case of remainders, express results in the form of an equation, as in $325 = 46 \times 7 + 3$.
g. Explain why multiplication and division strategies and algorithms work, using place value and the Properties of Arithmetic (including explanations supported by drawings or objects).

Quantity and Measurement

Core Standards · Students understand that:

[38] Glossary: Related fractions. Two fractions are *related* if one denominator is a factor of the other. (See Ginsburg, Leinwand and Decker (2009), *Informing Grades 1-6 Mathematics Standards Development: What Can Be Learned from High-Performing Hong Kong, Korea, and Singapore?*, Table A1, p. A-5, grades 3 and 4.)
[39] Include sharing multiple continuous wholes a fairly among b people, naming an individual share as a/b. For example 5 meters of pink ribbon shared among 3 people results in $5/3$ meters each.
[40] Glossary: Single-place number. The numbers that result when a whole number between 1 and 9 (inclusive) is multiplied by the numbers 10, 100, 1000, etc.

Appendix B2: Draft Standards in ELA and Mathematics

1. Area is additive: If a figure is decomposed into several pieces, then the area of the whole figure can be found by adding the areas of the pieces (expressed in common units).
2. An angle is two rays with a common endpoint, and is measured by the relative amount of a circle that you trace when turning from one ray to the other.
3. A one-degree angle turns through 1/360 of a circle, where the circle is centered at the origin of the rays; the measure of an angle is the number of one-degree angle turned with no gaps or overlaps.

Core Standards · Students can and do:

a. Apply the formula for area of squares and rectangles. Measure and compute whole-square-unit areas of objects and geometric figures decomposable into rectangles.[41]
b. ♦ Make a dot plot to show repeated measurements in common fractions of a unit ($1/2$, $1/4$, $1/8$). Solve problems involving addition and subtraction of fractions by using information presented in dot plots (e.g., finding the difference in length between the longest and shortest specimens in an insect collection).
c. Draw scales (number line representations) of problem situations involving length, height and distance including fractional units or decimal numbers.
d. Find one dimension of a rectangle given the other dimension and its area or perimeter; find the length of one side of a square given its area or perimeter. Represent these problems with equations involving a symbol for the unknown quantity.
e. Measure angles in whole-number degrees using a protractor; sketch angles of specified measure. Find the measure of a missing part of an angle, given the measure of the angle and the measure of a part of it; represent these problems with equations involving a symbol for the unknown quantity.

Shapes

Core Standards · Students understand that:

1. Shapes can be analyzed and classified using concepts of parallelism, perpendicularity and angle measure.

Core Standards · Students can and do:

a. Draw points, lines, line segments, rays and angles; identify these in geometric figures.
b. Associate angles of a quarter turn (subtending ¼ of a circle) with angle measure 90°, a half turn (½ of a circle) with angle measure 180°, ¾ turn (¾ of a circle) with angle measure 270°, and a full turn (complete circle) with angle measure 360°.[42]
c. Draw perpendicular and parallel lines; identify these in geometric figures.
d. Identify right angles and angles smaller than/greater than a right angle in geometric figures; recognize right triangles.
e. Given a quadrilateral, say whether it is a square, whether it is a rectangle, and whether it is a parallelogram (with an understanding that a given shape may fit more than one category).

[41] using one-digit or two-digit numbers times two-digit numbers
[42] From Singapore Primary 4

Mathematics: Fifth Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Fractions

Core Standards · Students understand that:

1. Fractions a/b and $(n\times a)/(n\times b)$ are equal: for $1/b$ is n copies of $1/(n\times b)$, so a/b is $n \times a$ copies of $1/(n\times b)$. Example: $1/3$ is 4 copies of $1/12$, so $2/3$ is 8 copies of $1/12$; thus $2/3 = 8/12$.
2. Fractions can be added or subtracted by replacing each with an equal fraction so that the resulting fractions have the same denominator. Example: $2/3 + 5/4 = 8/12 + 15/12 = 23/12$.
3. Multiplying unit fractions gives a new unit fraction with denominator equal to the product of the initial denominators. For example, $1/3 \times 1/2 = 1/(3\times2)$. The product $1/3 \times 1/2$ is 1 part when a whole of size $1/2$ is divided into 3 parts, i.e. it is "$1/3$ of $1/2$."[43]
4. Multiplying unit fractions can be extended to multiplying fractions in general. For example, $2/3 \times 4/5$ can be seen as 2 groups of 4 unit fractions $1/15$, hence the product is $8/15$.[44] The product $2/3 \times 4/5$ is 2 parts when a whole of size $4/5$ is divided into 3 parts, i.e. it is "$2/3$ of $4/5$."[45]
5. Dividing a unit fraction $1/b$ by a whole number n gives a unit fraction with denominator $n \times b$, because when $1/b$ is divided into n equal parts, the size of each part is $1/(n\times b)$. For example, $1/3 - 2 = 1/6$.
6. Dividing a whole number n by a unit fraction $1/b$ gives a whole number $n \times b$, because, as there are b units of $1/b$ in 1, there are $n \times b$ units of $1/b$ in n. For example, $2 - 1/3 = 6$.
7. A mixed number stands for the sum of its whole number part and a fractional part less than 1. A mixed number can be written as a fraction greater than 1, such as $17/5$. This equivalence can be shown using area, length, and number line models.
8. The ratio of two whole number quantities a and b, written $a:b$ or a/b, is a multiplicative comparison telling how much of one quantity there is for a given amount of the other, or how many times as much one is than the other.[46]

Core Standards · Students can and do:

a. Use area models and length models (such as strip drawings or the number line) to represent multiplication of fractions, division of unit fractions by whole numbers, and division of whole numbers by unit fractions.
b. Multiply fractions, divide unit fractions by whole numbers, and divide whole numbers by unit fractions, and solve word problems involving these operations.
c. Divide whole numbers by single digit decimals by seeing that they are fractions with denominator 10 or 100.
d. Rename fractions and mixed numbers to equivalent forms and identify equivalent fractions.
e. Compare and order fractions and mixed numbers with like or unlike denominators, including in contextual situations, using the fractions themselves, strip drawings or number line representations, and area models. Describe the size of fractional quantities with reference to the problem situation.
f. Make tables of equal ratios relating whole number quantities, and find missing values in the tables. Plot pairs of values on the coordinate plane. Example

[43] On the number line, $1/n \times 1/d$ is 1 part when the interval from 0 to $1/d$ is divided into n parts. This is the same as 1 part when the interval from 0 to 1 is divided into $n \times d$ parts, and thus $1/n \times 1/d = 1/n\times d$.
[44] Using the Properties of Arithmetic, $2/3 \times 4/5 = (2 \times 1/3) \times (4 \times 1/5) = (2 \times 4) \times (1/3 \times 1/5) = (2 \times 4) \times 1/3\times5 = 2\times4/3\times5$.
[45] On a number line, $m/n \times c/d$ means m parts when the interval from 0 to c/d is divided into n parts.
[46] For example, in a mixture of 5 cups of flour and 2 cups of sugar, the ratio is 5 cups flour to 2 cups sugar. There is $5/2$ times as much flour as sugar (equivalently, 2 1/2 times as much or 2.5 times as much).

Appendix B2: Draft Standards in ELA and Mathematics

Cups of Flour	5	10	?	20
Cups of Sugar	2	?	6	8
Flour:Sugar (fraction form)	5/2	10/4	?	20/8
Flour:Sugar (decimal form)	?	?	?	?

Hours of Snowfall	5	10	?	20
Inches of Snow	2	?	6	8
Inches:Hours (fraction form)	2/5	4/10	?	8/20
Inches:Hours (decimal form)	?	?	?	?

Base Ten Computation

Core Standards · Students understand that:

1. The standard division algorithm is based on successively finding the largest single digit multiple of the divisor that is less than the dividend, regrouping to the next lower unit if necessary, and then subtracting the multiple and repeating to find the next digit in the quotient.
2. The division algorithm can be used to express a fraction in decimal form by carrying the division into the decimal places.
3. The features of the place value system for whole numbers extend to the decimal positions and the combined system is symmetric around the ones place.
4. In adding or subtracting decimal numbers, one operates separately with the units of each size, except when regrouping is needed; the scheme for regrouping is the same at each place, because each unit is composed of ten of the next smaller unit.
5. Numbers in decimal notation can be shown on the number line by dividing and sub-dividing the unit intervals as many times as needed to locate the number. This process can be visualized as zooming in on the number line.

Core Standards · Students can and do:

a. Divide two, three and four digit numbers by two digit numbers, with remainder, using an algorithm based on place value and regrouping, such as the standard algorithm. In the case of remainders, express results in the form of an equation, as in $145 = 11 \times 13 + 2$.
b. Understand very large and very small numbers (from millionths to hundreds of millions); round very large numbers.
c. Quickly find 0.1 more than a number and less than a number; 0.01 more than a number and less than a number; and 0.001 more than a number and less than a number.
d. Add and subtract decimals using an algorithm based on place value and regrouping, such as the standard algorithm, and solve problems involving these operations.
e. Write fractions in decimal notation for denominators 2, 3, 4, 5, 6, 8, 10 and 100.
f. Explain why strategies and algorithms for decimals work, using place value and the Properties of Arithmetic (including explanations supported by drawings or objects).

Quantity and Measurement

Core Standards · Students understand that:

1. The volume of a solid figure is a measure of how much space it encloses. A cube with side length 1 unit is said to contain "one cubic unit" of volume. The volume of a solid figure can be measured (expressed numerically) by the number of cubic units that fit inside it with no gaps or overlaps.
2. Packing a rectangular prism with unit cubes and decomposing the prism into layers shows that a rectangular prism ℓ units long by w units wide by h units tall contains a volume $V = \ell \times w \times h$ cubic units. The base of the prism has area $A = \ell \times w$ square units, and the prism can be viewed as h layers, each containing $\ell \times w$ cubic units, so the volume of the prism can also be expressed as $V = A \times h$ cubic units.
3. Volume is additive: If a solid figure is decomposed into several pieces, then the volume of the whole figure can be found by adding the volumes of the pieces (expressed in common units).
4. Quantities with like units can be added or subtracted giving a sum or difference with the same unit; quantities with unlike units can be multiplied or divided giving products or quotients with derived units.
5. The ratio of a length, area or amount to another length, area or amount is the same regardless of the size of the unit used for measurement.
6. The number line is a scale that can be used to show units such as pounds, liters, etc.

Core Standards · Students can and do:

a. Measure and compute whole-cubic-unit volumes for rectangular prisms and for objects well described as rectangular prisms.
b. Convert among different-sized standard measurement units within a given measurement system (e.g. feet to yards, centimeters to meters) and use conversion to solve story problems.
c. Form ratios of lengths, areas, and other quantities, including when quantities being compared are measured in different units.
d. Solve word problems involving addition, subtraction, multiplication and/or division using quantities expressed as whole numbers, fractions, or decimals with measurement units.
e. Solve multi-step problems involving units of weight, capacity, money, volume and area.

Coordinate Geometry

Core Standards · Students understand that:

1. A pair of perpendicular number lines ("axes") defines a coordinate system. A given point in the plane has a separate position along each of the two axes; the two positions of the point are called its coordinates.
2. Graphs on coordinate axes can be used to make sense of relationships among quantities in complex problems.

Core Standards · Students can and do:

a. Graph points in the first quadrant the coordinate plane, and read off the coordinates of graphed points.[47]
b. Determine the lengths of horizontal and vertical segments in the plane, given the coordinates of their endpoints.
c. ♦ Collect data on continuous covarying quantities and display the data in a line graph with broken lines; distinguish bar graphs from line graphs; ask and answer questions from line graphs, including comparisons of ratios.

Statistics

Core Standards · Students understand that:

[47] The axes should sometimes represent dimensioned quantities, and the units of measure should not always be the same for both axes. Coordinates may be whole numbers, fractions or decimals.

Appendix B2: Draft Standards in ELA and Mathematics

1. Data are collected purposefully to answer a predefined question (e.g., "How tall are the fifth graders in our school?")
2. A set of data typically shows variability—not all of the values are the same—and yet the values also typically show some tendency to cluster. Identifying a "center" for a data set is a way to describe its many values using a single number.
3. The median is a measure of center in the sense that approximately half the data values are less than median, while approximately half are greater.
4. Variation in a data set can be measured by the range and by typical deviations from the center.

Core Standards · Students can and do:

a. Collect data to answer a predefined question about a measurement quantity. Make a dot plot to display the data, and describe the data using the median and typical deviations from the it.

Mathematics: Sixth Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Ratios and Proportional Relationships

Core Standards · Students understand that:

1. Multiplicative comparisons can be extended from whole numbers to fractions and decimals. When the ratio q/m is formed, or when q is r times as much as m, the numbers q, r and m can be fractions or decimals.
2. p% of a quantity means $p/100$ times as much as the quantity. The number p can be a fraction or decimal, as in 3.75%.
3. A unit rate is the multiplicative factor relating the two quantities in a ratio. Two quantities q and m can be compared by $q = r \times m$, where the unit rate r tells how much q per m.
4. Given two quantities in a ratio (e.g. distance and time), finding the unit rate produces a new type of quantity (e.g. speed).

Core Standards · Students can and do:

a. Solve for an unknown quantity in a problem involving two equal ratios.
b. Find a percentage of a quantity; solve problems involving finding the whole given a part and the percentage.
c. Solve unit rate problems including unit pricing and constant speed. (See table.)

$D = s \times T$	$D \div T = s$	$D \div s = T$
A car driving at a speed of 30 miles per hour for 6 hours travels a distance of 180 miles.	If a car drives 180 miles for 6 hours at a constant speed, that speed is 30 miles per hour.	When a car drives 180 miles at a speed of 30 miles per hour, the trip takes 6 hours.

d. Represent unit rate problems on a coordinate plane where each axis represents one of the two quantities involved, and find unit rates from a graph. Explain what a point (x, y) means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.

The Number System

Core Standards · Students understand that:

1. The Properties of Arithmetic govern operations on all numbers.
2. Division of fractions follows the "invert and multiply" rule because multiplication and division are inverse operations. For example, $(2/3) \div (5/7) = 14/15$ because $(14/15) \times (5/7) = 2/3$.
3. Every nonzero fraction has a unique multiplicative inverse,[48] namely its reciprocal. Division can be defined as "multiplying by the multiplicative inverse." Then $(2/3) \div (5/7) = 14/15$ because the division symbol indicates multiplication by the multiplicative inverse.
4. A two-sided number line can be created by reflecting the fractions across zero. Numbers located to the left of zero on the number line are called negative numbers and are labeled with a negative sign.

[48] Glossary: Multiplicative inverses. Two numbers whose product is 1 are multiplicative inverses of one another. Example: $3/4$ and $4/3$ are multiplicative inverses of one another because $3/4 \times 4/3 = 4/3 \times 3/4 = 1$.

Appendix B2: Draft Standards in ELA and Mathematics

5. Two different numbers, such as 7 and –7, that are equidistant from zero are said to be opposites of one another. The opposite of 7 is –7 and the opposite of –7 is 7. The opposite of the opposite of a number is the number itself. The opposite of 0 is 0. The operation of attaching a negative sign to a number can be interpreted as reflecting the number across zero on the number line.
6. The absolute value of a number is its distance from zero on the number line. For any positive number q, there are two numbers whose absolute value is q, namely q and $-q$.
7. The absolute value of a signed quantity (e.g. account balance, elevation) tells the size of the quantity irrespective of its sense (debit or credit; above or below sea level).
8. Comparison of numbers can be extended to the full number system. The statement $p > q$ means that p is located to the right of q on the number line, while $p < q$ means that p is located to the left of q on the number line. The statement $p > q$ does not mean $|p| > |q|$.

Core Standards · Students can and do:

a. Divide fractions, and divide finite decimals by expressing them as fractions.
b. Solve problems requiring arithmetic with fractions presented in various forms, converting between forms as appropriate and estimating to check reasonableness of answers.
c. Find and position rational numbers[49] on the number line.
d. Use rational numbers to describe quantities such as elevation, temperature,[50] account balance and so on. Compare these quantities using > and < symbols and also in terms of absolute value.
e. Graph points and identify coordinates of points on the Cartesian coordinate plane in all four quadrants.

Statistics

Core Standards · Students understand that:

1. The mean is a measure of center in the sense that it is the balance point; the mean is the value each data point would take on if the total value of all the data points were redistributed fairly.
2. When the mean and median of a data set differ substantially, both measures should be provided, and the difference explained in terms of the data values.

Core Standards · Students can and do:

a. Collect data to answer a predefined question about a measurement quantity. Make a dot plot to display the data, and describe the data using measures of center and measures of variation.[51]

Geometry

Core Standards · Students understand that:

1. Triangles and parallelograms can be dissected and reassembled into rectangles with the same area; this leads to a formula for area in terms of base and height.
2. Polygons can be dissected into triangles in order to find their area.

Core Standards · Students can and do:

[49] Glossary: Rational number. A number expressible in the form $^a/_b$ for integers a and $b \neq 0$. The rational numbers include positive and negative integers, positive and negative fractions, and 0.
[50] A caution for temperature problems: The rational numbers are not a good model for a temperature scale. There is no temperature that solves the equation $T + 1000^\circ C = 0$.
[51] Data sets should include fractional values at this grade but not negative values.

a. Find the area of right triangles, other triangles, special quadrilaterals, and polygons (by dissection into triangles and other shapes).
b. Find surface area of cubes, prisms and pyramids (include the use of nets to represent these figures).
c. Solve problems involving area, volume and surface area of objects.
d. Examine the relationship between volume and surface area. Exhibit rectangular prisms with the same surface area and different volume, and with the same volume and different surface area.
e. Use exponents and symbols for square roots and cube roots to express the area of a square and volume of a cube in terms of the side length, and to express the side length in terms of the area or volume.

Expressions and Equations

Core Standards · Students understand that:

1. A number that is the result of a sequence of operations with other numbers can be expressed in different ways using conventions about order of operations and parentheses, rules for working with fractions, and the Properties of Arithmetic. All such expressions are equivalent.
2. A letter is used to stand for a number in an expression in cases where one doesn't know what the number is, or where, for the purpose at hand, it can be any number in the domain of interest. Such a letter is called a variable.
3. An equation is a statement that two expressions are equal, and a solution to an equation is a value of the variable (or a set of values for each variable if there is more than one variable) that makes the equation true.

Core Standards · Students can and do:

a. Represent an unknown number using a letter in simple expressions such as $y + 2$, $y - 3$, $6 + y$, $5 - y$, $3y$, $y/2$, and $(3 \pm y)/5$.
b. Interpret $3y$ as $y + y + y$ or $3 \times y$, $y/2$ as $y - 2$ or $1/2 \times y$, $(3 \pm y)/5$ as $(3 \pm y) - 5$ or $1/5 \times (3 \pm y)$.[52]
c. Evaluate simple expressions when values for the variables in them are specified (exclude expressions with a variable in denominator).
d. Choose variables to represent quantities in a word problem and construct simple equations to solve the problem by reasoning about the quantities.
e. Solve equations of the form $x + p = q$ (for $p < q$) and $px = q$ where p and q are fractions.

[52] From Singapore Secondary 1

Appendix B2: Draft Standards in ELA and Mathematics

Mathematics: Seventh Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Ratios and Proportional Relationships

Core Standards · Students understand that:

1. Two variable quantities x and y are said to be proportional to one another if the ratio x/y is always equal to the same quantity k, so that $y = kx$. The constant k is the unit rate, and tells how much of y per unit of x.

Core Standards · Students can and do:

a. Compare proportional relationships represented in different ways (e.g. compare a graph to an equation to determine which of two objects has greater speed).
b. Decide whether two quantities that vary together have a proportional relationship, analyze proportional relationships using the unit rates that characterize them, and solve word problems involving proportional relationships.
c. Plot pairs (x, y) from a proportional relationship $y = kx$, and pass a straight line through them and the origin. Observe that increases in y are proportional to increases in x, and calculate [increase in y]/[increase in x] = k.

The Number System

Core Standards · Students understand that:

1. On the number line, the sum $p + q$ is defined to be the number lying distance $|q|$ from p, to the right of p if q is positive and to the left of p if q is negative. A number and its opposite are additive inverses (add to zero).[53]
2. Sums of signed numbers can be computed using the Properties of Arithmetic.[54]
3. The additive inverse of a sum is the sum of the additive inverses.[55]
4. Subtraction is defined as adding the additive inverse. This definition of subtraction allows subtraction of rational numbers and agrees with previous understandings of subtraction with positive numbers.[56] On the number line, the difference $p - q$ lies distance $|q|$ from p, to the left of p if q is positive and to the right of p if q is negative.
5. The absolute value of $p - q$ equals the distance between p and q on the number line.
6. Products of signed numbers can be computed using the Properties of Arithmetic.[57] In particular, multiplying a number by –1 produces its additive inverse.[58]

[53] Glossary: Additive Inverses. Two numbers whose sum is 0 are additive inverses of one another. Example: $3/4$ and $-3/4$ are additive inverses of one another because $3/4 + (-3/4) = (-3/4) + 3/4 = 0$.
[54] For example, 7 + (–3) = 4 because 7 + (-3) = (4 + 3) + (–3) = 4 + [3 + (–3)] = 4 + [0] = 4. And (–2) + (–3) = –5 because 5 + [(-2) + (-3)] = (2 + 3) + [(-2) + (-3)] = [2 + (-2)] + [3 + (-3)] = [0] + [0] = 0 so (-2) + (-3) is the additive inverse of 5, that is –5.
[55] For example, –(6 + –2) = (–6) + 2 because [6 + (–2)] + [(–6) + 2] = [6 + (–6)] + [(–2) + 2] = [0] + [0] = 0.
[56] For example, the subtraction 7 – 3 means 7 plus the additive inverse of 3, i.e. 7 + (–3), which equals 4. The subtraction 9 – (–4) means 9 plus the additive inverse of –4, i.e. 9 + 4, which equals 13.
[57] For example, (–1) × (–1) = 1 because (–1) + (–1) × (–1) = 1 × (–1) + (–1) × (–1) = [1 + (–1)] × (–1) = 0 × (–1) = 0.
[58] Because (–1) × a + a = (–1) × a + (1) × a = [(–1) + (1)] × a = 0 × a = 0.

7. Every nonzero rational number has a multiplicative inverse. Division of rational numbers is defined as multiplying by the multiplicative inverse.
8. The operation of adding the rational number q to points on the number line is a translation; it shifts points to the right if $q > 0$, to the left if $q < 0$, and not at all if $q = 0$. The operation of adding $–q$ undoes the operation of adding q.
9. The operation of multiplying points on the number line by a positive rational number k is a dilation; it scales points further away from zero if $k > 1$, closer to zero if $k < 1$, and not at all if $k = 1$. The operation of multiplying by $1/k$ undoes the operation of multiplying by k.

Core Standards · Students can and do:

a. Explore and explain with number lines the rules for adding rational numbers, e.g., $r + s = s + r$; $r + (–s) = r – s$; $p – (q + r) = p – q – r$.
b. Use the rules of arithmetic to explore and explain with specific numbers the rules for multiplying rational numbers, e.g., 4×-5 is -5 added to itself 4 times, so equal to -20; $-3 \times (-2 + 2) = -3 \times 0 = 0$, so $-3 \times -2 = -(-3)\times 2 = -(-6) = 6$.
c. Add and subtract rational numbers, and use these operations to solve word problems (including signed quantities such as elevation, temperature, account balance, and so on).
d. Multiply and divide rational numbers, and use these operations to solve word problems (including signed quantities).

Expressions and Equations

Core Standards · Students understand that:

1. Expressing a quantity in different forms serves a purpose in analyzing quantitative situations.
2. The distributive property can be used in two directions, both to expand linear expressions, and to factor a sum of terms with a common factor.

Core Standards · Students can and do:

a. Construct algebraic expressions for simple real-world situations and generate equivalent expressions to interpret their meaning (e.g., $P + 0.05P = 1.05P$ means that "increase by 5%" is the same as "multiply by 1.05").
b. Generate equivalent expressions from a given expression, including putting linear expressions in standard form and taking out a common factor. Include expressions involving negative numbers and exponents 2 and 3.
c. Solve multi-step word problems that lead to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are rational numbers, by undoing the operations involved in producing the expression on the left, using additive and multiplicative inverses.
d. Solve simple absolute value equations of the form $|x + h| = j$ and $|x – h| = j$, where h and j are integers.
e. Read the structure in a numerical expression at a level necessary to enter it into a calculator or spreadsheet, making use of parentheses and the conventions on order of operations.

Statistics

Core Standards · Students understand that:

1. In addition to measurement variability, another source of variation in data is randomness.

Core Standards · Students can and do:

a. Collect experimental or simulation data from repeated random trials. Make a histogram showing absolute frequencies and a bar graph of relative frequencies. Discuss the patterns and make predictions for further experiments or simulations.

Probability

Core Standards · Students understand that:

1. Chance events fall along a spectrum: nearly impossible | unlikely | neither likely nor unlikely | likely | nearly certain.
2. Probability is a quantitative measure of likelihood. Probabilities are numbers lying between 0 and 1, with 0 representing impossible and 1 representing certain (in the case of a finite sample space).
3. The experimental probability of a specified outcome is the observed fraction of the outcome in a data set collected from a process involving randomness or chance.
4. In a random process, the individual outcomes are unpredictable, but patterns may emerge after repeated trials. Experimental probabilities in random experiments tend to approach stable values as more and more data is generated.
5. In a theoretical probability model, the set of distinct possible outcomes for a random experiment is called the sample space. An event is a set of sample points; a sample point may belong to several events. A specified event occurs in some fraction of the sample space. This fraction is called the theoretical probability of the event.
6. When computing theoretical probabilities, all members of the sample space are assumed equally probable. Theoretical probabilities will not match long-run experimental probabilities if this assumption is inappropriate (e.g., as in the case of a loaded die).

Core Standards · Students can and do:

a. Compute experimental probabilities from data sets, including data sets generated by simulations or sampling experiments.
b. Compute experimental probabilities to estimate theoretical probabilities when no theoretical probability model is apparent.
c. Represent sample spaces for one-stage random experiments; identify members of the sample space in which specified events occur.
d. Use a theoretical probability model to compute theoretical probabilities for one-stage random experiments, expressing theoretical probabilities as fractions, decimals and percents.
e. Compare experimental probabilities to theoretical probabilities for one-stage random experiments, examining and if feasible revising the assumptions of the theoretical model when the two conflict.

Geometry

Core Standards · Students understand that:

1. Two polygons are congruent[59] if and only if there is a correspondence between vertices so that the corresponding sides are equal and the corresponding angles are equal.
2. A plane or solid figure is similar to another if the second can be obtained from the first by a similarity transformation.[60] All ratios of lengths in the second figure to corresponding lengths in the first figure are equal to the scale factor of the dilation.

[59] Glossary: Congruent. Two plane or solid figures are *congruent* if one can be obtained from the other by a sequence of rigid motions (rotations, reflections, and translations).
[60] Glossary: Similarity transformation. A rigid motion followed by a dilation. Glossary: 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.

3. Congruent figures have the same area or volume. A similarity transformation with a scale factor of k leaves angle measures unchanged, changes lengths by a factor of k, changes areas by a factor of k^2, and changes volumes by a factor of k^3.
4. Given a line in the coordinate plane not parallel to either axis, any two right triangles with legs parallel to the axes and hypotenuse on the given line are similar, and so the slope of the line (rise over run) is the same regardless of which two distinct points are used to compute it.

Core Standards· Students can & do:

a. Solve problems involving similar triangles and scale drawings (including computing actual lengths, areas and volumes from a scale drawing and reproducing a scale drawing at a different scale).
b. Explore using hands-on activities the area of non-rectangular figures and the perimeter of curvilinear figures, and the fact that a dilation of the plane changes areas by the square of the scale factor.[61]
c. Use scale factors to find lengths and areas of similar figures, including an informal derivation of the formulas relating the area, radius and circumference of a circle.
d. Give an explanation of why the volume of a cylinder is the area of the base times the height, using informal arguments involving slices.
e. Use coordinate grids to transform figures and to predict the effect of dilations, translations, rotations and reflections.
f. Use two-dimensional representations of three-dimensional objects (schematics, assembly instructions, perspective drawings and multiple views) to solve problems.
g. Explore three-dimensional figures formed by translations and rotations of plane figures through space.
h. Sketch and describe cross-sections of cones, cylinders, pyramids and prisms.

[61] Include using grids of squares with fractional side lengths to estimate area, and measuring the length of strings wrapped around the perimter.

Appendix B2: Draft Standards in ELA and Mathematics

Mathematics: Eighth Grade

Developing Coherent Understanding

[Temporarily removed for editing.]

Functions and the Situations They Model

Core Standards · Students understand that:

1. A function is a rule, often defined by an expression, that states a relationship between the values of two variable quantities.
2. A linear function models a situation where the change in one quantity is proportional to the corresponding change in the other quantity. The constant of proportionality, m, is the rate of change of the function. If x is the input and y is the output then the function is defined by $y = mx + b$ for some constant b, which is called the initial value of the function (the value of the function when x is 0).
3. The graph of a linear function $y = mx + b$ is a straight line, and the slope of the line is the function's rate of change.
4. The problem of finding where two linear functions have the same output value for a common input value leads to an equation in one variable; the solution or solutions (if any) can be visualized as the input value(s) where the graphs of the functions intersect.
5. A linear equation in one variable can be solved by successively transforming it into simpler equations with the same solutions using the Properties of Arithmetic and the Properties of Equality, until an equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

Core Standards · Students can and do:

a. Compare features of two or more functions that may be presented in different representations (as formulas, graphs, tables of values, or verbally).
b. 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.
c. 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.
d. Solve linear equations with rational number coefficients, including equations that require expanding expressions using the distributive law and collecting like terms.

The Number System

Core Standards · Students understand that:

1. The number line has numbers that are not rational, such as 2π or $2 + \sqrt{3}$, called irrational numbers.
2. An irrational number can be approximated to arbitrary precision by rational numbers.
3. If $n > 0$ is an integer and $\sqrt{n}$ is not an integer, then $\sqrt{n}$ is irrational. If q is rational and r is irrational, then $q + r$ is irrational, and so is qr provided $q \neq 0$.

Core Standards · Students can and do:

a. Use rational approximations to compare the size of irrational numbers, locate them approximately on a number line and estimate the value of expressions (e.g. π^2).

Geometry

Core Standards · Students understand that:

1. Angle measures formed by a configuration of lines in a plane can often be deduced from other angle measures (e.g., vertically opposite angles, angles produced when a transversal line cuts two parallel lines).
2. The side lengths of a right triangle are related by the Pythagorean theorem.

Core Standards · Students can and do:

a. Explore and explain by hands-on activities facts about the angle sum of triangles, exterior angles, and alternate interior angles of parallel lines. Use these facts to determine the angle sum of interior angles of convex polygons, and the angle sum of exterior angles of convex polygons.[62]
b. Explore and explain using hands-on activities: parallel lines in space, line perpendicular to a line through a given point, lines perpendicular to a plane, lines parallel to a plane, the plane passing through three given points, and the plane perpendicular to a given line at a given point.
c. Use facts about angles to write and solve simple equations for an unknown angle in a figure.
d. Explain a proof of the Pythagorean theorem.[63]
e. Use the Pythagorean theorem to determine missing side lengths in right triangles and to solve problems in two and three dimensions.
f. Use the Pythagorean theorem to find the distance between two points in a coordinate system.
g. 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, ambiguous, or impossible.)
h. 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.
i. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Statistics

Core Standards · Students understand that:

1. Scatterplots for bivariate continuous data may reveal patterns of association between two quantities. This kind of relationship between quantities is not a functional relationship—and yet, a function might be a valuable way to describe a statistical relationship.

Core Standards · Students can and do:

a. Construct and interpret scatterplots for bivariate measurement data.
b. Describe patterns that appear in scatterplots, such as clustering, outliers, positive/negative association, linear association, nonlinear association.
c. For scatterplots that suggest a linear association, model the relationship with a linear function using an informal fitting procedure. Use the model function to solve problems in the context of the data,

[62] Use physical models, transparencies, or dynamic geometry software to make rigid motions and give informal arguments, for example, arrange three copies of the same triangle so that the three angles form a line, and give an argument in terms of transversals why this is so.
[63] For example, by the method of right triangles in a square.

Appendix B2: Draft Standards in ELA and Mathematics

interpreting the slope/rate of change and intercept/initial value. Informally assess the goodness of the model by judging the closeness of the data points to the graph of the function.

Probability

Core Standards · Students understand that:

1. The framework for theoretical probability models is the same for compound events as for simple events: the theoretical probability is the fraction of the sample space in which the compound event occurs.

Core Standards · Students can and do:

a. Compute experimental probabilities from data sets, including data sets generated by simulations or repeated sampling experiments.
b. Compute experimental probabilities to estimate theoretical probabilities of compound events when no theoretical probability model is apparent.
c. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams; identify members of the sample space in which specified events occur.
d. Compute theoretical probabilities for compound events by counting members of the sample space.
e. Compare experimental probabilities to theoretical probabilities for multi-stage random experiments, examining the assumptions of the theoretical model when the two conflict.

Mathematics: High School—Expressions

A Coherent Understanding of Expressions

[Final draft of CCR narrative goes here.]

Seeing structure in expressions

Core Standards · Students understand that:

1. Different forms of expression for functions reveal different properties of the function; a purpose in transforming expressions is to find those properties.

   For example, factoring a quadratic expression reveals the zeros of the function it defines, and putting the expression in vertex form reveals the maximum or minimum of the function; the expression 1.15^t can be rewritten in the form $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate monthly interest rate if the annual rate is 15%.

2. The laws of exponents for whole number exponents follow from an understanding of exponents as indicating repeated multiplication, and from the associative property of multiplication.

3. The interpretation of zero, fractional and negative exponents follows from extending the laws of exponents to those values.

   For example, since $(x^{1/3})^3 = x^{(1/3)\cdot 3} = x^1 = x$, $x^{1/3}$ is the cube root of x.

4. Complex expressions can be interpreted by "chunking": temporarily viewing a part of the expression as a single entity.

Core Standards · Students can and do:

a. Factor, expand, and complete the square in quadratic expressions.
b. Use chunking to see expressions in different ways that suggest ways of rewriting them.

   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 $(x^2 - y^2)(x^2 + y^2)$.

c. Rewrite expressions using the laws of exponents.

   For example $(x^{1/2})^3 = x^{3/2}$ and $1/x = x^{-1}$.

d. Use the laws of exponents to interpret expressions for exponential functions, recognizing fractional exponents as indicating roots of the base and negative exponents as indicating the reciprocal of a power.

   For example, identify the relative rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.2)^{10t}$, $y = (1.01)^{t/12}$, and recognize that any non-zero number raised to the 0 power is 1 (for example, $12(1.05)^0 = 12$). Avoid common errors such as confusing as $6(1.05)^t$ with $(6\cdot1.05)^t$ and $5(0.03)^t$ with $5(1.03)^t$.

e. Given an expression for an exponential function, identify whether it represents exponential growth or decay.
f. Using a method such as the factorization $(x^n-1) = (x-1)(x^{n-1} + \ldots + 1)$ where n is a whole number, prove the formula for the sum of a geometric series, and use the formula to solve problems.

   Include problems involving compound interest and mortgage payments.

The arithmetic of polynomials and rational functions

Core Standards · Students understand that:

1. Polynomials form a system analogous to the integers, closed under the operations of addition, subtraction, and multiplication.

2. A polynomial of degree n has n complex roots, where roots are counted according to multiplicity.
3. For a polynomial $p(x)$, $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.
4. The Binomial Theorem gives the expansion of $(x + a)^n$ in powers of x for a whole number n and a real number a, with coefficients determined for example by Pascal's triangle. The Binomial Theorem can be proved by mathematical induction.
5. Rational functions are fractions whose numerator and denominator are polynomials, and the rational functions are closed under the operation of division by a nonzero rational function.

Core Standards · Students can and do:

a. Add, subtract and multiply polynomials.
b. Identify zeros of polynomials when suitable factorizations are available, and graph polynomials.
c. Transform simple rational functions using the Properties of Arithmetic and the rules for operations on fractions.
d. Identify zeros and asymptotes of rational functions, when suitable factorizations are available, and graph rational functions.
e. Divide polynomials by monomials

Mathematics: High School—Equations

A Coherent Understanding of Equations

[Final draft of CCR narrative goes here.]

Building equations to model relations between quantities

Core Standards · Students understand that:

1. Choosing a unit for a general quantity (e.g. length) establishes a correspondence between specific instances of the quantity (e.g. lengths of specific objects) and numbers called coordinates.
2. A relation between two quantities can be represented by an equation in variables representing coordinates for the quantities; by a graph on a pair of axes marked with units for the quantities; and by a table of coordinate pairs from the relation. The graph and the table show pairs that are solutions to the equation.

Core Standards · Students can and do:

a. Build equations to express relations between quantities and solve problems.

   Include equations arising from situations involving linear, quadratic, simple rational, and exponential functions.

b. Rearrange formulas to isolate a quantity of interest.
c. Build systems of equations and solve problems involving systems of equations.

Reasoning with equations and inequalities

Core Standards · Students understand that:

1. To solve an equation algebraically, one assumes it is true and deduces the solutions, often in steps that replace it with a simpler equation whose solutions include the solutions of the original one.
2. Adding a number to both sides of an equation, or multiplying both sides by a nonzero number, leads to an equation that has exactly the same solutions as the original.
3. If the product of two numbers is zero, then at least one equals zero, and conversely. This principle is the basis for solving equations by factoring.
4. Multiplying both sides of an equation by an expression that can be zero for certain values of the variables in it, or squaring both sides of an equation, can lead to an equation that has more solutions than the original. Evaluating these in the original equation eliminates extraneous solutions.
5. The method of completing the square can transform any quadratic equation in x into an equivalent equation of the form $(x - p)^2 = q$. This leads to the quadratic formula.
6. Equations not solvable in one number system may have solutions in a larger number system.
7. Equations of the form $f(x) = g(x)$ can be solved graphically by finding the intersections (if any) of the graphs of $f(x)$ and $g(x)$.
8. The relationship between a function f and its inverse (if it has one) can be used to solve equations of the form $f(x) = c$. For example, a logarithmic function can help solve exponential equations, and an inverse trigonometric function can help solve trigonometric equations.
9. Given a system of linear equations, adding a multiple of one equation to another produces a system with the same solutions. This principle, combined with principles already encountered with equations in one variable, allows for the simplification of systems.

10. The solutions to an equation in two variables form a graph—a set of points, often a curve or a line, in the coordinate plane.
11. The solutions to two equations in two variables (if any) can be visualized as the points of intersection of their graphs, because those points satisfy both equations simultaneously.
12. The solution to a system of inequalities in two variables can be visualized as the intersection of the regions in the plane defined by the inequalities.

Core Standards · Students can and do:

a. Solve simple rational and radical equations, noting and explaining extraneous solutions.
b. Solve quadratic equations over the real numbers by completing the square, using the quadratic formula and factoring.
c. Solve linear inequalities in one variable and graph the solution set on a number line.

   Emphasize: solving the associated equality and determining on which side of the solution of the associated equation the solutions to the inequality lie.

d. Solve linear systems of equations algebraically, focusing on pairs of linear equations in two variables.
e. Graph a system of two linear or quadratic equations in two unknowns and estimate the solution from a graph.
f. Graph the solution set of a linear inequality in two variables.
g. Use the properties of logarithms to solve equations involving exponential functions.
h. Use inverse trigonometric functions to solve equations of the form $A\sin(Bx + C) = D$.
i. Find complex roots of quadratic equations.
j. Solve a system of two quadratic equations in two unknowns.

Mathematics: High School—Functions

A Coherent Understanding of Functions

[Final draft of CCR narrative goes here.]

Interpreting functions

Core Standards · Students understand that:

1. The domain of a function is the set of its inputs, and the range is the set of its outputs.
2. Function notation uses a letter to stand for a function. If f is a function and x is a number in its domain, then $f(x)$ indicates the output of f corresponding to the input x.
3. Functions can be described by key characteristics, including: zeros; vertical intercept; extreme points; average rates of change (over intervals); intervals of increasing, decreasing and/or constant behavior; and end behavior.
4. Linear, quadratic and exponential functions are defined by expressions that have forms specific to each type, in which the parameters can often be interpreted in terms of characteristics of the graph.
5. An equation in two variables implicitly expresses one variable as a function of the other if there are no points on the graph having the same value of the first variable but different values of the second.
6. When x is a power of ten, the common logarithm $\log(x)$ tells the exponent. When x lies between 10^n and 10^{n+1}, $\log(x)$ lies between n and $n+1$.

Core Standards · Students can and do:

a. Describe qualitatively the functional relationship between two quantities by reading a graph; e.g., where the function is increasing or decreasing, what its long run behavior appears to be, and whether it appears to be periodic.
b. Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
c. Compare values and properties of two functions represented in different ways (algebraically, graphically, numerically in tables, or by verbal descriptions).
d. Relate the domain and range of a function to its graph and, where applicable, to the quantitative relationship it describes.
e. Describe the qualitative behavior of common types of functions using graphs and tables.

   Identify: intercepts; intervals where the function is increasing, decreasing, positive or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. Use technology to explore the effects of parameter changes on the graphs of linear, power, quadratic, square root and cube root, polynomial, simple rational, exponential, logarithmic, sine and cosine, absolute value and step functions.

f. Interpret the parameters in the general expressions for linear, quadratic, and exponential functions, and draw conclusions about the parameters by inspection of the graph.
g. Given a function f, and given a constant c, evaluate $f(c)$ if possible and find solutions to $f(x) = c$ (if they exist). Where appropriate, relate the possibility of evaluation to the domain and the existence or nonexistence of solutions to the range.

Building functions

Core Standards · Students understand that:

1. Varying a parameter in the general expression for a linear, quadratic or exponential function can (often) be interpreted as performing a geometric transformation on the graph. This can be used to adjust a function to model a particular situation.

2. Composing a function f with a function g creates a new function called the composite function—for an input number x, the output of the composite function is $f(g(x))$.
3. The inverse of a function "undoes" what the function does; that is, composing the function with its inverse in either order returns the original input.
4. Sequences are functions whose domain is the whole numbers, and they can be defined recursively as well as explicitly. Arithmetic sequences are linear functions and geometric sequences are exponential functions.

Core Standards · Students can and do:

a. Make graphs of linear, quadratic, cubic, absolute value and exponential functions, and, given the graph of one of these types, identify the type.
b. Sketch graphs of quadratic functions presented in the form $y = ax^2+bx+c$, $y = a(x-h)^2+k$ and $y = a(x-p)(x-q)$ (without plotting points).
c. Solve problems involving quadratic functions, such as analyzing projectile motion and maximizing profit.
d. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, and $f(x + k)$. Include both positive and negative k; find the value of k given the graphs.
e. Write an expression of the form $a(1+r)^t$ or ab^t for an exponential function to express a constant percent growth rate or a constant growth factor.
f. Evaluate composite functions and compose functions symbolically in simple cases (e.g. one or both functions linear).
g. Read values of an inverse function from a graph or a table, given that the function has an inverse.
h. For linear or simple exponential functions, find a formula for an inverse function by solving an equation.
i. For linear functions or simple exponential functions, verify symbolically by composition that one function is the inverse of another.
j. Write arithmetic and geometric sequences both recursively and in closed form, and translate between the two forms.

Linear vs. exponential behavior

Core Standards · Students understand that:

1. Linear functions grow by equal differences in equal time periods; exponential functions grow by equal factors in equal time periods.
2. The rate of change of a linear function is constant; the rate of change of an exponential function is proportional to the value of the function.
3. Exponential growth eventually outstrips polynomial growth (including, in particular, linear growth).

Students can and do:

a. 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.
b. Interpret absolute and relative rates of change and use them to make predictions.
c. Identify the initial value and growth or decay rate from a table or graph of an exponential function.
d. Calculate and interpret the growth factor for an exponential function (presented symbolically or as a table) given a fixed time interval. Estimate the growth factor from a graph.
e. Recognize a quantitative relationship as linear or exponential from description of a situation.

Trigonometric functions

Core Standards · Students understand that:

1. The unit circle in the coordinate plane enables one to extend the domains of the sine, cosine and tangent functions of right-triangle trigonometry to the real numbers.
2. Trigonometric functions are periodic by definition, and sums and products of these functions are periodic.
3. Restricting trigonometric functions to a domain on which they are always increasing or always decreasing allows for the construction of an inverse function.

Core Standards · Students can and do:

a. Use radian measure and revisit graphs of trigonometric functions in terms of radians.
b. Use the unit circle to determine geometrically the values of sine, cosine, tangent for multiples of $\pi/4$ and $\pi/3$; commit sines and cosines of principal angles to memory.
c. Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.
d. Solve simple trigonometric equations formally using inverse trigonometric functions;[64] evaluate solutions using technology.
e. Explain relationships between the identity $\sin^2 x + \cos^2 x = 1$, the equation of a circle, and the Pythagorean theorem.
f. Explain proofs of the sine and cosine addition and subtraction formulas.
g. Use trigonometric identities to simplify expressions.
h. Use trigonometric functions to solve problems in science, economics or other fields where periodic phenomena occur.

[64] Solving trigonometric equations by means of the quadratic formula is optional.

Appendix B2: Draft Standards in ELA and Mathematics

Mathematics: High School—Coordinates

A Coherent Understanding of Coordinates.

[Final draft of CCR narrative goes here.]

Expressing geometric properties with equations

Core Standards · Students understand that:

1. The graph of a linear equation is the straight line through any two of its solutions. Conversely, any line is the set of solutions to some linear equation.
2. Two lines with well-defined slopes are parallel if their slopes are equal and perpendicular if their slopes multiply to –1.
3. The equation of a circle can be found using its definition and the Pythagorean theorem.
4. Transforming the graph of an equation by reflecting in the axes, translating parallel to the axes, or applying a dilation to one of the axes correspond to substitutions in the equation.

   For example, reflection in the y axis corresponds to $(x,y) \rightarrow (-x,y)$, translation vertically down by three units corresponds to $(x,y) \rightarrow (x,y+3)$, and dilating by a factor of 2 parallel to the x-axis corresponds to $(x, y) \rightarrow (x/2, y)$.
5. An ellipse is obtained by stretching a circle, leading to an equation of the form $x^2/a^2 + y^2/b^2 = 1$.
6. The formula $A = \pi ab$ for the area of an ellipse can be derived from the formula for the area of a circle.

Core Standards · Students can and do:

a. Write the equation of a line in point-slope form, slope-intercept form, or standard form.
b. Identify parallel and perpendicular lines in a coordinate plane, and use the relationship between slopes of parallel and perpendicular lines to solve problems. Know the equations of vertical and horizontal lines.
c. Find the point on the segment between two given points that divides the segment in a given ratio.
d. Complete the square to find the center and radius of a circle given by an equation.
e. Find an equation for an ellipse given the lengths of its major and minor axes; calculate the area of an ellipse.
f. Use coordinates to solve geometric problems.

   Include proving simple geometric theorems algebraically, using coordinates to compute perimeters and areas for triangles and rectangles, finding midpoints of line segments, finding distances between pairs of points and determining when two lines are parallel or perpendicular.

Vectors and matrices[65]

Core Standards · Students understand that:

1. Vectors are quantities having both magnitude and direction. They are typically represented by directed line segments.
2. On a coordinate plane, vectors are determined by the coordinates of their initial and terminal points or by their x- and y-components.

[65] Limit to vectors in the plane and 2x2 matrices.

3. Vectors can be added end-to-end, component-wise, or by the parallelogram rule. The length of the sum of two vectors is typically not the sum of the lengths.
4. Translations of the plane can be represented by vectors.
5. Vectors are often used to describe "directed quantities" in physics, such as position, velocity, acceleration and force. Vector addition is used to find resultant forces or compute displacements.
6. Multiplying a 2x2 matrix into a vector produces another vector. This can be viewed as a transformation of the plane.
7. A system of two linear equations in two variables can be represented as a single matrix equation in a vector variable.
8. Matrices can be added, subtracted and multiplied.
9. The zero and identify 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 2x2 matrix determines whether it has a multiplicative inverse.

Core Standards · Students can and do:

a. Represent vectors graphically.
b. Perform basic vector operations (addition, subtraction, scalar multiplication) both graphically and algebraically.
c. Use vectors to model and solve problems.
d. Use trigonometry to decompose a vector into perpendicular components.
e. Add, subtract and multiply matrices.
f. Represent systems of equations as matrix equations.
g. Find the inverse of a matrix if it exists and use it to solve equations.

Complex Numbers

Core Standards · Students understand that:

1. To solve quadratic equations that have no solutions in the real numbers, the number system can be extended to include the square roots of –1, creating a closed number system called the complex numbers.
2. The Properties of Arithmetic and the relation $i^2 = -1$ can be used to perform operations on complex numbers.
3. All polynomials can be factored over the complex numbers, e.g. as in $x^2 + 4 = (x + 2i)(x - 2i)$.
4. Complex numbers can be visualized on the complex plane. Real numbers fall on the horizontal (real) axis, and imaginary numbers fall on the vertical axis.
5. On the complex plane, arithmetic of complex numbers can be interpreted geometrically: addition is analogous to vector addition, and multiplication can be understood as rotation and dilation about the origin. Complex conjugation is reflection across the real axis.
6. The absolute value (or modulus) of a complex number is defined as its distance from the origin in the complex plane. On the complex plane, as on the real line, the distance between numbers is the absolute value of the difference, and the midpoint of a segment is the average of the numbers at its endpoints.
7. Euler's formula $e^{i\theta} = \cos\theta + i\sin\theta$ links complex numbers to trigonometry.

Core Standards · Students can and do:

a. Add, subtract and multiply complex numbers.
b. Find the conjugate of complex a number and use it to find absolute values and divide complex numbers.
c. Graph complex numbers in both rectangular and polar form and interpret arithmetic of complex numbers geometrically.

d. Solve quadratic equations over the complex numbers.
e. Convert complex numbers between rectangular and polar form.
f. Re-derive trigonometric identities using complex methods.

Mathematics: High School—Modeling

A Coherent Understanding of Modeling.

Modeling uses mathematics to help us make sense of the real world—to understand quantitative relationships, make predictions, and propose solutions.

A model can be very simple, such as a geometric shape to describe a physical object like a coin. Even so simple a model involves making choices. It is up to us whether to model the solid nature of the coin with a three-dimensional cylinder, or whether a two-dimensional disk works well enough for our purposes. For some purposes, we might even choose to adjust the right circular cylinder to model more closely the way the coin deviates from the cylinder.

In any given situation, the model we devise depends 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 we can create and analyze is constrained as well by the limitations of our mathematical and technical skills. For example, modeling a physical object, a delivery route, a production schedule, or a comparison of loan amortizations each requires different sets of tools. Networks, spreadsheets 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 structure might model seemingly different situations.

The basic modeling cycle is one of (1) identifying the key features of a situation, (2) creating geometric, algebraic or statistical objects that describe key features of the situation, (3) analyzing and performing operations on these objects to draw conclusions and (4) interpreting the results of the mathematics in terms of the original situation. Choices and assumptions are present throughout this cycle.

The modeling cycle and general tools

Core Standards · Students understand that:

1. The behavior of quantities in physical, economic, public policy, social and everyday situations can be modeled using mathematics. Mathematics is used to model relationships among quantities, constraints and objectives.
2. Models are formulated to answer questions about the world based on an analysis of the situation and a conceptual model that involves assumptions and choices.
3. Quantities in the situation are represented by variables in the model, usually through measurement. Modeling includes decisions about what to measure and how, and how well the measurements work for the purpose.
4. Mathematical knowledge and skill are required in order to get results from a mathematical model—even to devise a model in the first place. Areas of mathematics commonly used in modeling include linear, quadratic, exponential or other functions; probability and statistics; and geometry (solid, plane and coordinate). In active modeling, fluency with math content is required in order to focus on the larger problem.
5. Technology is often required in order to obtain results from a model.
6. The results of a mathematical model must be evaluated against evidence and the phenomena at hand. If the mathematics is correct, then unreasonable results point to unreasonable assumptions and the need to revise the model.
7. Real-world problems do not announce that they are amenable to mathematical analysis and solution; bringing mathematics to bear on such a problem is a highly creative act.

Core Standards · Students can and do:

Appendix B2: Draft Standards in ELA and Mathematics

a. Creatively apply the mathematics they know to situations in which it only imperfectly applies—and achieve useful results by doing so.

   For example, independently choose to describe HIV transmission as a random event with a fixed probability per sexual encounter.

b. Decide what measures are relevant to a problem.

   For example, given the purpose at hand, is traffic safety best measured in terms of fatalities per year or fatalities per vehicle-mile? (or fatalities per 100 million vehicle-miles?)

c. Use network diagrams or other techniques to visualize complex situations with many factors, causes or agents.

   For example, what agents and factors are responsible for setting the price of gasoline? How do they interact?

d. In situations with many factors, causes or agents, organize the factors/causes/agents into a hierarchy of importance.

   For example, what are the primary, secondary, and relatively rare causes of lung cancer?

e. Use order of magnitude estimates, unprompted, to identify important effects, disregard unimportant effects and predict results of a more detailed model.
f. Use 2-by-2 tables, flowcharts, and other strategies to organize information and manage scenarios.

Modeling with geometry, equations, functions, probability, and statistics

Core Standards · Students can and do:

a. Model physical objects with geometric shapes.

   Include common objects that can reasonably be idealized as two- and three-dimensional geometric shapes. Identify the ways in which the actual shape varies from the idealized geometric model.

b. Model situations with equations and inequalities.

   Include situations well described by a linear inequality in two variables or a system of linear inequalities defining a region in the plane.

c. Model situations with common functions.

   Include situations well described by linear, quadratic or exponential functions; and situations that can be well described by inverse variation ($f(x) = k/x$). Include identifying a family of functions that models features of a problem, and identifying a particular function of that family and adjusting it to fit by changing parameters. Understand the recursive nature of situations modeled by linear and exponential functions.

d. Model situations using probability and statistics.

   Include using simulations to model probabilistic situations; describing the shape of a distribution of values and summarizing a distribution with measures of center and variability; modeling a bivariate relationship using a trend line or a regression line.

Mathematics: High School—Statistics

A Coherent Understanding of Statistics.

[Final draft of CCR narrative goes here.]

Summarizing and interpreting categorical, count and measurement data

Core Standards · Students understand that:

1. Statistical methods take variability into account to support making informed decisions based on quantitative studies designed to answer specific questions.
2. Visual displays and summary statistics condense the information in data sets into usable knowledge.

Core Standards · Students can and do:

a. Summarize comparative or bivariate categorical data in two-way frequency tables; interpret joint, marginal and conditional relative frequencies in the context of the data.
b. Compare data on two or more count or measurement variables by using plots on the real number line (dot plots, histograms and box plots); use appropriate statistics to summarize center (median, mean) and spread (interquartile range, standard deviation) of the data sets; interpret changes in shape, center and spread in the context of the data sets, accounting for possible effects of extreme data points.
c. Summarize bivariate quantitative data by giving a regression line and a measure of goodness of fit.

Making inferences and justifying conclusions drawn from data

Core Standards · Students understand that:

1. Statistics is a process for making inferences about population parameters based on a sample from that population; randomness is the foundation for statistical inference.
2. The design of an experiment or sample survey is of critical importance to analyzing the data and drawing conclusions.

Core Standards · Students can and do:

a. Use probabilistic reasoning to decide if a specified model is consistent with a given data-generating process.
b. Recognize the purposes of and differences among sample surveys, experiments and observational studies; explain how randomization relates to each.
c. Use data from a sample survey to estimate a population parameter.
d. Use data from a randomized experiment to compare two treatments.
e. Evaluate reports based on data.

Mathematics: High School—Probability

A Coherent Understanding of Probability.

[Final draft of CCR narrative goes here.]

Modeling random events with finite sample spaces

Core Standards · Students understand that:

1. Random phenomena can be modeled mathematically using a sample space in which sample points represent distinct outcomes, and in which each sample point is assumed to have the same probability.
2. Events are subsets of a sample space that can be defined using characteristics (or categories) of the sample points, as well as unions, intersections, or complements thereof ('and', 'or', 'not'). A sample point may belong to several events (categories).
3. If A and B are two events (categories), then the conditional probability of A given B, denoted by $p(A \mid B)$, is the fraction of sample points in B that also lie in A.
4. The laws of probability can be used to generate new probabilities from known probabilities.

Core Standards · Students can and do:

a. Compute theoretical probabilities of compound events by constructing and analyzing representations, including tree diagrams, systematic lists, and Venn diagrams
b. Use the addition and multiplication laws of probability to compute probabilities of complementary, disjunctive, and compound events.
c. Apply concepts such as intersections, unions and complements of events, and conditional probability and independence, to define or analyze compound events, calculate probabilities, and solve problems.
d. Construct and interpret two way tables to show probabilities when two characteristics (or categories) are associated with each sample point. Use a two way table to determine conditional probabilities.
e. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.
f. Use permutations and combinations to compute probabilities of compound events and solve problems.

Experimenting and simulating to model probabilities

Core Standards · Students understand that:

1. Sets of data obtained from surveys, simulations, or other means, can be used as probability models, by treating the data set itself as a sample space, in which the sample points are the individual pieces of data. The probability of an event within the data set is its relative frequency.
2. The law of large numbers provides the basis for estimating certain probabilities by use of empirical relative frequencies.
3. The probability of an outcome can be interpreted as an assertion about the long-run proportion of the time the outcome will occur if the random experiment is repeated a large number of times. The observed proportion of occurrence for the outcome of interest can be used as an estimate of the relevant probability.

Core Standards · Students can and do:

a. Calculate experimental probabilities by performing simulations or experiments involving a probability model and using relative frequencies of outcomes.

b. Compare the results of simulations (e.g., random number tables, random functions, and area models) with predicted probabilities. When there are substantial discrepancies between predicted and observed probabilities, explain them in terms of the assumptions of the probability model.
c. Use the relationship between conditional probabilities and relative frequencies in contingency tables to analyze decision problems.
d. Use the mean and standard deviation of a data set to fit it to a normal distribution (bell-shaped curve) 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.
e. Apply the binomial theorem to solve probability problems.

Using probability to make decisions

Core Standards · Students understand that:

1. A probability distribution is a collection of probabilities $\{p_1, \ldots, p_n\}$ for a set of mutually exclusive and jointly exhaustive events $\{E_1, \ldots, E_n\}$. The probabilities in a probability distribution sum to unity.
2. A random variable attaches a value to each event in a probability distribution. The expected value of the random variable is the weighted average of its possible values, with weights given by their respective probabilities.
3. When the possible outcomes of a decision can be assigned probabilities and payoff values, the decision can be analyzed as a random variable with an expected value, e.g. of a wager. If possible, this is the first thing to compute in a decision context.

Core Standards · Students can and do:

a. Calculate expected value to analyze mathematical fairness, payoff.
b. Evaluate and compare options in situations where all of the available options share the same expected value but carry different levels of risk.
c. Analyze each of two options and make a quantitatively informed decision in situations where one option has both a higher expected return and a higher level of risk. Include both low-stakes and high-stakes decisions.
d. Analyze decision problems using probability concepts.

Mathematics: High School—Geometry

A Coherent Understanding of Geometry.

[Final draft of CCR narrative goes here.]

Triangle Congruence

Core Standards · Students understand that:

1. Rigid motions move lines to lines and segments to segments; preserve the distance between points; and preserve measures of angles.
2. Two geometric figures are congruent if there is a sequence of rigid motions that carries one onto the other. This is the principle of superposition.
3. Criteria for triangle congruence can be thought of as answers to the following question: What information about the measures in a triangle ensures that all triangles drawn with those measures are congruent?
4. Criteria for triangle congruence can be established using rigid motions.

Core Standards · Students can and do:

a. Use (in reasoning and problem solving) precise definitions of angles, polygons, parallel and perpendicular lines, rigid motions (rotations, reflections, translations), parallelograms and rectangles; commit these definitions to memory.

b. Prove theorems about lines and angles; test conjectures and identify logical errors in fallacious proofs.

Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; measures of supplementary angles sum to 180°; two lines parallel to a third are parallel to each other; points on a perpendicular bisector of a segment are exactly those equidistant from the segment's endpoints.

c. Prove theorems about triangles; test conjectures and identify logical errors in fallacious proofs.

Theorems include: measures of interior angles of a triangle sum to 180°, base angles of isosceles triangles are equal, the triangle inequality, the longest side of a triangle faces the largest side and vice-versa, the exterior-angle inequality, and the segment joining midpoints of two sides of a triangle: parallel to the third side and half the length.

d. Use and prove properties of and relationships among special quadrilaterals: parallelogram, rectangle, rhombus, square, trapezoid and kite.

e. Characterize parallelograms in terms of equality of opposite sides, in terms of equality of opposite angles, and in terms of bisection of diagonals; characterize rectangles as parallelograms with equal diagonals.

Similarity, Right Triangles and Trigonometry

Core Standards · Students understand that:

1. The dilation of a given line is parallel to the given line. (In particular, lines passing through the center remain unchanged.)
2. The dilation of a given segment is parallel to the given segment and longer or shorter in the ratio given by the scale factor. A dilation leaves a segment unchanged if and only if the scale factor is 1.
3. The assumed properties of dilations can be used to establish the AA, SAS and SSS criteria for similarity of triangles.
4. Similarity allows one to view side ratios in right triangles as properties of the angles themselves, leading to elementary definitions of sine, cosine and tangent.

Core Standards · Students can and do:

a. Use triangle similarity criteria to solve problems and to prove relationships in geometric figures.

b. Prove that two lines with well-defined slopes are parallel if and only if they have the same slope, and perpendicular if and only if the product of their slopes is equal to –1.

c. Give an informal explanation using successive approximation that a dilation of scale factor r changes the length of a curve by a factor of r and the area of a region by a factor of r^2.

d. Use and explain the relationship between the trigonometric ratios of complementary angles.

e. Use trigonometric ratios and the Pythagorean theorem to solve right triangles[66] in applied problems.

Circles

Core Standards · Students understand that:

1. All circles are similar.
2. There is a unique circle through three non-collinear points, or tangent to three non-concurrent lines.

Core Standards · Students can and do:

a. Identify and describe relationships among 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.

b. Identify and define radius, diameter, chord, tangent, secant and circumference.

c. Determine the arc lengths and the areas of sectors of circles, using proportions.

d. Construct a tangent line from a point outside a given circle to the circle.

e. Prove and use basic theorems about circles, and use these theorems to solve problems. Include:

- Symmetries of a circle
- Similarity of a circle to any other
- Tangent line, perpendicularity to a radius
- Inscribed angles in a circle, relationship to central angles, and equality of inscribed angles
- Properties of chords, tangents and secants as an application of triangle similarity.

Axiomatic Systems

Core Standards · Students understand that:

1. Mathematical statements are proven or disproven by deductive reasoning. Conjectures can arise from inductive reasoning, but they cannot be proven that way.
2. Precise definitions make possible rigorous logical reasoning, and definitions shared in common make possible the objective evaluation of one's own reasoning by others.
3. Logical reasoning requires avoiding common fallacies, such as using an example to prove the rule or confusing a statement with its converse.
4. Axiomatic systems require precise definitions, but some terms must be left "undefined." The axioms specify how the undefined terms behave.
5. The first three postulates of the *Elements* are models of straightedge and compass construction.
6. Hilbert and other mathematicians improved on the *Elements* by identifying its hidden assumptions and making them explicit with additional axioms.

[66] A right triangle has five parameters, its three lengths and two acute angles. Given a length and any other parameter, "solving a right triangle" means finding the remaining three parameters. (It is worth reflecting on why this problem is well-posed.)

7. Three classical construction problems (trisecting an angle, duplicating a cube and squaring a circle) inspired the development of much important mathematics.
8. The Parallel Postulate (axiom) distinguishes Euclidean geometry from other geometries. Other geometries, such as spherical and hyperbolic geometry, use alternatives to the Parallel Postulate. Many theorems of Euclidean geometry are not theorems in other geometries.

Core Standards · Students can and do:

a. Use the terms point, line and plane to define other geometric terms as line segments, angles and rays.
b. With ruler and compass:
   - Divide a segment into any number of equal parts.
   - Given two segments of lengths r and s, construct a segment of length rs and one of length r/s.
   - Given a segment of length r, construct a segment of length $\sqrt{r}$.

Trigonometry of General Triangles

Core Standards · Students understand that:

1. The Law of Sines generalizes the side-angle inequality.
2. The Law of Cosines generalizes the Pythagorean theorem.
3. The Laws of Sines and Cosines embody the triangle congruence criteria, in that three pieces of information are usually sufficient 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.

Core Standards · Students can and do:

a. Explain proofs of the Law of Sines and the Law of Cosines.
b. Use 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).

Geometric Measurement and Dimension

Core Standards · Students understand that:

1. Congruence plays a fundamental role defining the concepts of length, area and volume.
2. Areas of polygons can be computed by dissecting them into triangles and using the fundamental property of area, that the area of a dissected figure is the sum of the areas of its components.
3. Lengths of curves and areas of curved regions can be defined informally using the concept of "limit."
4. Cavalieri's principle allows one to understand volume formulas informally by visualizing volumes as stacks of thin slices.

Core Standards · Students can and do:

a. Give definitions of rectangular prism, (right) pyramid, (right circular) cone, (right circular) cylinder and sphere.
b. For a pyramid or a cone, give an heuristic argument to show why its volume is (1/3) its height times the area of its base.
c. Use the behavior of length and area under dilations to prove the formulas for the circumference and area of a circle.

d. Apply formulas and solve problems involving volume and surface area of right prisms, right circular cylinders and right pyramids, cones, spheres and composite figures.
e. Identify and apply the 3:2:1 relationship among volumes of circular cylinders, hemispheres and cones with same height and circular base and 3:1 relationship between volume of a prism and pyramid with same base area and height.
f. Identify cross-sectional shapes of slices of three-dimensional objects, and identify three-dimensional objects traced out by rotations of two-dimensional objects.

Mathematics: High School—Calculus

Calculus is an important part of the high school curriculum for a large and growing number of students. To see well-established standards for this course, please see course descriptions such as those of the College Board, International Baccalaureate Organization, or any of the following states: California, Florida, Hawaii, Indiana, Mississippi, Pennsylvania, South Carolina, Tennessee, Utah, and Virginia. We invite feedback from states as to whether they would like to see Calculus in future drafts of the Common Core Standards.

Progressions in Grades K–8

Note, a progression may appear in more than one band.

Grades K-5

Number

Counting and Cardinality
Base Ten Computation
Early Relations and Operations
Quantity and Measurement
Operations and the Problems They Solve
Fractions

Geometry

Shapes
Coordinates
Geometry

Data

Statistics

Grades 6-8

Number

The Number System

Algebra

Ratios and Proportional Relationships
Expressions and Equations
Functions and the Situations They Model

Geometry

Geometry

Data

Statistics
Probability

Appendix B2: Draft Standards in ELA and Mathematics

List of Progressions and Grade Ranges

Strand	Progression	Start	End
Number	Counting and Cardinality	K	K
	Early Relations and Operations	K	1
	Base Ten Computation	K	5
	Quantity and Measurement	K	5
	Operations and the Problems They Solve	2	4
	Fractions	3	5
	Ratios and Proportional Relationships	6	7
	The Number System	6	8
Geometry	Shapes	K	4
	Coordinate Geometry	5	5
	Geometry	6	8
Algebra*	Expressions and Equations	6	7
	Functions & The Situations They Model	8	8
Data*	Statistics	5	8
	Probability	7	8

* The Algebra and Data strands have concepts and skills in earlier grades that progressions in the Number strand.

GLOSSARY

Additive inverses. Two numbers whose sum is 0 are additive inverses of one another. Example: $^3/4$ and $^3/4$ are additive inverses of one another because $^3/4 + (\ ^3/4) = (\ ^3/4) + ^3/4 = 0$.

Algorithm. A step by step routine that always gives some answer, rather than ever giving no answer; that always gives the right answer, and never gives a wrong answer; that can always be completed in a finite number of steps, rather than in an infinite number of steps; and that applies to all problems of a given type (e.g., adding any two multidigit whole numbers, or bisecting any angle). Cf. Wikipedia's "effective procedure," from which this definition is adapted.

Common logarithm. The common logarithm of x is the power to which you raise 10 in order to get x.

Congruent. Two plane or solid figures are congruent if one can be obtained from the other by a sequence of rigid motions (rotations, reflections, and translations).

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.

Integer. A positive whole number, a negative whole number, or 0.

Mean. The sum of the values in a list divided by the number of values in the list. (To be more precise, this defines the *arithmetic mean*.)

Median. In a list of values, 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.

Multiplicative inverses. Two numbers whose product is 1 are multiplicative inverses of one another. Example: $^3/4$ and $^4/3$ are multiplicative inverses of one another because $^3/4 \times ^4/3 = ^4/3 \times ^3/4 = 1$.

Range. The difference between the greatest and smallest values in a list of numbers.

Rational number. A number expressible in the form $^a/_b$ for integers a and $b \neq 0$. The rational numbers include positive and negative integers, positive and negative fractions, and 0.

Related fractions. Two fractions are *related* if one denominator is a factor of the other. (See Ginsburg, Leinwand and Decker (2009), *Informing Grades 1-6 Mathematics Standards Development: What Can Be Learned from High-Performing Hong Kong, Korea, and Singapore?*, Table A1, p. A-5, grades 3 and 4.)

Similarity transformation. A rigid motion followed by a dilation.

Single-place number. The numbers that result when a whole number between 1 and 9 (inclusive) is multiplied by the numbers 10, 100, 1000, etc.

Teen number. A whole number that is greater than or equal to 11 and less than or equal to 19.

Transitive property of measurement order. If one object is bigger than a second, and the second object is bigger than a third object, then the first object is bigger than the third object.

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

What follows is a sample of sources consulted in the drafting of the Core Standards for Reading, Writing, and Speaking and Listening. Citations are organized by the standard to which they pertain. For example, all sources with specific relevance to reading standard #1 are listed below that standard. Each citation contains a link to the section of the source document that is relevant to the core reading, writing, or speaking and listening standard to which it corresponds. For more information on sources and how they were used in the drafting of the core standards, please refer to the "College and Career Readiness Standards for Reading, Writing, and Speaking and Listening."

Reading Evidence

Reading 1. Determine both what the text says explicitly and what can be inferred logically from the text.

College Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (see sample post-secondary assignment #4, pgs. 98-99)
- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Entrance Examination Board (see pg. 7- skills rated by importance to post-secondary instructors- skill #2 "Making inferences and drawing conclusions")
- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #4 and #15).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).
- *AP European and World History Course Descriptions* (2009), New York, NY: College Board (see pgs. 21-24 in AP European History for document-based question expectations). AP World and U.S. History also have these expectations.

Career Readiness

- ACT. (2006). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT. (pgs. 3-5, see Table 2 "Main Ideas and Supporting Details")
- *Hawai'i Career Ready Study.* (2007). Commissioned by the Hawai'i P-20 Initiative. (see sample task "Review Commercial Real Estate Loan Application," Banking/Loan Officer; see sample task "Review claim letter," Insurance/Claims Agent)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 30.2.1.2.a)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package,* Prescribed Learning Outcomes, 2007 (Grade 12) (see B6, B7)
    3. **Ireland:** *Leaving Certificate/English Syllabus* for Higher Level and Ordinary Level (≈ Grades 10-11) (see 5.4.a. Higher; 5.5.a. Ordinary)
    4. **Ontario, Canada:** *The Ontario Curriculum, English,* 2007 (see 1.4. Grade 12 Reading & Literature Studies)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **Singapore:** *English Language Syllabus 2001,* Learning Outcomes for O-Levels (≈ Grades 10-11) (see 8.1.d, 8.2.d, 8.3.c)

- Organization for Economic Cooperation and Development. (2006). *PISA 2006: Science Competencies for Tomorrow's World, Vol. 1* (see pg. 293, Reading Proficiency Levels 2 and 4) (PISA 2006, Vol. 1, full PDF)
- Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills.* Paris, France: Organization for Economic Cooperation and Development. (pgs. 112-115, esp. pg.114 "Retrieving Information")

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Reading Competencies, Comprehension and Retention, bullet 14)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see 1.A.2)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools.* (see 2.5. Grades 11-12, 2.0 Reading Comprehension Grades 11-12, 2.2.a-e Writing Applications Grades 11-12)
    2. **Massachusetts:** *English Language Arts Curriculum Framework,* June 2001. (see General Standard 8: Understanding a Text, General Standard 12: Fiction, General Standard 13: Nonfiction)

U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see "Locate and Recall," see "Integrate and Interpret," see Basic and Advanced – Literary; Proficient – Informational)

Reading 2. Support or challenge assertions about the text by citing evidence in the text explicitly and accurately.

College Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (see sample post-secondary assignment #6, pgs. 102-103)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Entrance Examination Board (see pg. 7- skills rated by importance to post-secondary instructors- skill #7 "Justifying a personal interpretation of a text through specific references")
- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #4 and #15).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).
- *AP European and World History Course Descriptions* (2009), New York, NY: College board (see pgs. 21-24 in AP European History for document-based question expectations). AP 5 high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 10/20/30 2.3.2.b and 30.3.2.3.c)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see B8)
    3. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (see 1.4 &1.7, Grade 12 Reading & Literature Studies)
    4. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 1, Outcome 1, Key Skill 4; Unit 3, Outcome 1, Key Skill 3)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.2.d)

- Organization for Economic Cooperation and Development. (2006). *PISA 2006: Science Competencies for Tomorrow's World, Vol. 1* (see pg. 289, example PISA item "Graffiti") (PISA 2006, Vol. 1 full PDF)
- Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills.* Paris, France: Organization for Economic Cooperation and Development. (see pg. 115, "Reflecting on and Evaluating the Content of a Text")

Illustrative Alignment with State and Other Standards

- U.S. Dept. of Education. (2009). *Reading Framework for the 2009 National Assessment of Educational Progress.* Washington, DC: National Assessment Governing Board. (see Proficient-Informational bullet 1)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see I.A.2)
- A counterpart of this standard appears in the English language arts standards from the following states:

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

1. **California:** *English-Language Arts Content Standards for California Public Schools.* (see 2.4, Reading Comprehension Grades 11-12; 2.2.b, Grades 9-10, 3.2 Literary Response and Analysis Grades 11-12, 2.2.c Writing Applications Grades 11-12)
2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see 8.30, General Standard 11: Theme, 11.5, 11.7; General Standard 13: Nonfiction;General Standard 15: Style and Language)

Reading 3. Discern the most important ideas, events, or information, and summarize them accurately and concisely.

College Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (see sample post-secondary assignment #4, pgs. 98-99)
- *Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices. New York, NY: College Entrance Examination Board* (see pg. 7- skills rated by importance to post-secondary instructors- skill #1 "Identifying and/or summarizing the theme or central argument of a text," skill #4 "Understanding and paraphrasing points made in a text")
- ACT (2006), *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #2, #3, #6).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Informational Text 2, Survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see row 9. Survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).

Career Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (Workplace Task #5, pg. 82-83)
- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (See point 3 on pg. 13; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

- ACT. (2006). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT. (pgs. 3-5, see Table 2 "Main Ideas and Supporting Details")

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

1. **Alberta, Canada:** *English Language Arts Curriculum Outcomes*, 2003 (Grades 10-12) (see 20.2.1.2.b)
2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see B6, B7)
3. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Reading bullet 2)
4. **Ireland:** *Leaving Certificate/English Syllabus for Higher Level and Ordinary Level* (≈ Grades 10-11) (see 4.1.1.a; 4.1.1.c)
5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.3, Grade 12 Reading & Literature Studies)

- A counterpart of this standard also appears in the English language arts standards of the following :

  1. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 8.1.b, 8.2.b, 8.3.a)

- Organization for Economic Cooperation and Development. (2006). PISA 2006: *Science Competencies for Tomorrow's World, Vol. 1* (see pg. 291, example PISA item "Runners") (PISA 2006, Vol. 1 full PDF)
- Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills.* Paris, France: Organization for Economic Cooperation and Development. (see pg. 114, "Forming a Broad General Understanding")

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities. (see Making the Reading/Writing Connection bullet 2; Reading Competencies, Comprehension and Retention bullets 1, 2 and 5)
- A counterpart of this standard appears in the English language arts standards from the following states:

  1. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see General Standard 8: Understanding a Text)

- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see "Locate and Recall", see Basic-Informational bullet 1)

Reading 4. Delineate the main ideas or themes in the text and the details that elaborate them.

College Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (see sample post-secondary assignment #4, pgs. 98-99)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- ACT (2006), *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #2, #3, #6).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Informational Text 2. Survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see row 9. Survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).

Career Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (Workplace Task #5, pg. 82-83)
- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (See point 2, page 12; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)
- ACT. (2006). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT. (pgs. 3-5, see Table 2 "Main Ideas and Supporting Details")

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

  1. **Alberta, Canada:** *English Language Arts Curriculum Outcomes*, 2003 (Grades 10-12) (see 20.2.1.2.b; 10/20/30.2.3.2.f)
  2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package, Prescribed Learning Outcomes*, 2007 (Grade 12) (see B6, B7)
  3. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Reading bullet 2)
  4. **Ireland:** *Leaving Certificate/English Syllabus for Higher Level and Ordinary Level* (≈ Grades 10-11) (see 4.1.1.a)
  5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.3 and 1.6, Grade 12 Reading & Literature Studies)
  6. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 1, Outcome 1, Key Knowledge 1; Unit 2, Outcome 1, Key Skill 2; Unit 3, Outcome 2, Key Knowledge 2)
- A counterpart of this standard also appears in the English language arts standards of the following :

  1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 1.4.a-b)
  2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11)
     (Did not participate in PISA) (see 8.1.b-c, 8.2.b; 9.1.c)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- Organization for Economic Cooperation and Development. (2006). PISA 2006: *Science Competencies for Tomorrow's World, Vol. 1* (see pg. 291, example PISA item "Runners") (PISA 2006, Vol. 1 full PDF)
- Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills.* Paris, France: Organization for Economic Cooperation and Development. (see pg. 114, "Forming a Broad General Understanding")

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see pg. 17, F2 - in 12 of 12 states analyzed)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities. (see Reading Competencies, Comprehension and Retention bullets 5 and 6, Listening)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **Massachusetts:** English Language Arts Curriculum Framework, June 2001. (see General Standard 8: Understanding a Text, 8.30; General Standard 11: Theme, 11.5, 11.6, 11.7)

- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see "Locate and Recall", see 12th Grade)

Reading 5. Determine when, where, and why events unfold in the text, and explain how they relate to one another.

College Readiness

- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #11, #14, #21, #24).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Informational Text 6. Survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10.)
- *Florida American Diploma Project Survey Results.* (see row 20. Survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).

Career Readiness

- ACT. (2006). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT. (pgs. 3-5, see Table 2 "Sequential, Comparative, and Cause-Effect Relationships")

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see points 1 and 2, page 12; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 30.2.1.2.b)
    2. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 2.0.1)
    3. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Reading bullets 3 and 10; Language Development bullet 2, dash 2)
    4. **Ireland:** *Leaving Certificate/English Syllabus* for Higher Level and Ordinary Level (≈ Grades 10-11) (see 4.2.1.b, Higher Level)
    5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.6, Grade 12 Reading & Literature Studies)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.2.a; 2.2.k)

- Organization for Economic Cooperation and Development. (2006). *PISA 2006: Science Competencies for Tomorrow's World, Vol. 1* (see pg. 293, Reading Proficiency Level 3)(PISA 2006, Vol. 1 full PDF)
- Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills.* Paris, France: Organization for Economic Cooperation and Development. (pg. 115, "Developing an Interpretation")

Illustrative Alignment with State and Other Standards

- U.S. Dept. of Education. (2009). *Reading Framework for the 2009 National Assessment of Educational Progress.* Washington, DC: National Assessment Governing Board. (see Proficient – Literary bullet 2)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see I.A.4)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools.* (see 3.6, Reading Comprehension Grades 9-10)
    2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see General Standard 13: Nonfiction, 13.25, 13.27)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Reading 6. Analyze the traits, motivations, and thoughts of individuals in fiction and nonfiction based on how they are described, what they say and do, and how they interact.

College Readiness

- ACT (2008) *College Readiness Standards*. Iowa City IA (see p. 21: Sequential, Comparative, and Cause-Effect Relationships)
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 30.2.1.2.d; 30.2.3.1.c; 20/30.2.3.2.d; 10/20/30.5.1.1.c)
    2. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 1, Outcome 1, Key Knowledge 1)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 9.2.d; 8.2.d)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see pg. 17, H8- in 9 of 12 states analyzed)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see LA.4)
- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see Proficient bullets 1 and 3 and Advanced bullet 3- Literary, see "Integrate and Interpret")
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools* (see Reading 3.3, 3.4, grades 9-10)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Reading 7. Determine what is meant by words and phrases in context, including connotative meanings and figurative language.

College Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (see sample post-secondary assignment #6, pgs. 102-103)
- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Entrance Examination Board (see pg. 7- skills rated by importance to post-secondary instructors- skill #8 "Determining the meaning of unfamiliar words from context," skill #18 "Understanding figurative language...")
- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted to clarify which skills are most important to post-secondary instructors, see skill #7, skill #19).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (See Language 4. Survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).

Career Readiness

- ACT (2006). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT. (pgs. 3-5, see Table 2 "Meaning of Words")
- ACT (2009) See ACT WorkKeys "Reading for Information" Level 5 requirements (Level 5 is workplace training and college ready).
- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see pg. 11, point d; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** *English Language Arts Curriculum Outcomes*, 2003 (Grades 10-12) (see 20.2.1.2.f)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see B6; B13)
    3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see A1 2.CC.1)
    4. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (Listening, bullet 8; Reading, bullets 1 and 12)
    5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12, see 3.1-3.3, Reading and Literature Studies)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

6. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 2, Outcome 1, Key Knowledge 4)

- A counterpart of this standard also appears in the English language arts standards of the following :

1. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 7.d)

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Reading Competencies, Comprehension and Retention bullet 15; Listening bullet 3)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see I.B.3)
- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see "Vocabulary Assessment on the 2009 Reading Assessment," see pg. 47 "Preliminary Achievment Levels: Vocabulary")
- A counterpart of this standard appears in the English language arts standards from the following states:

1. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (General Standard 4: Vocabulary and Concept Development, 4.23)

Reading 8. Analyze how specific word choices shape the meaning and tone of the text.

College Readiness

- *Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices. New York, NY: College Entrance Examination Board* (see pg. 7- skills rated by importance to post-secondary instructors- skill #14: "Understanding words that have multiple definitions," skill #17: "Distinguishing between connotative and denotative meanings of words," skill #20: "Identifying the tone of the the text.")
- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #7, #10, and #19).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).

Career Readiness

Illustrative International Benchmarks

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 30.2.1.2.f; 20.2.1.2.e; 30.2.2.2.b and c)
2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see B13)
3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 2.CC.1; AI 5.CC.3)
4. **Ireland:** *Leaving Certificate/English Syllabus* for Higher Level and Ordinary Level (≈ Grades 10-11) (see 4.3.1.a; 4.1.1.b)
5. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) Outcome 4; C-4, 4.1, 4.2, 4.3, HSC; C-4, 4.1, 4.2, Preliminary and C-7.1, Preliminary)
6. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 2.3, Grade 12 Reading and Literature)
7. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 3, Outcome 2, Key Knowledge 1)

- A counterpart of this standard also appears in the English language arts standards of the following :

1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.2.j; 2.2.m)
2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 6.b)

- Organization for Economic Cooperation and Development. (2006). *PISA 2006: Science Competencies for Tomorrow's World, Vol. 1* (see pg. 289, example PISA item "Graffiti") (PISA 2006, Vol. 1 full PDF).

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see pg. 17, A6- in 11 of 12 states analyzed)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see I.C.3)
- A counterpart of this standard appears in the English language arts standards from the following states:

1. **California:** *English-Language Arts Content Standards for California Public Schools* (see 2.2 Reading Comprehension Grades 11-12; 3.3 Literary Response and Analysis Grades 11-12, 2.2.d Writing Applications Grades 11-12)
2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see 14.6; and General Standard 15: Style and Language, 15.7, 15.10)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see Proficient - Literary bullet 4, see "Critique and Evaluate")

Reading 9. Analyze how the text's organizational structure presents the argument, explanation, or narrative.

College Readiness

- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).
- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Entrance Examination Board (see pg. 7- skills rated by importance to post-secondary instructors- skill #3 "Understanding organizational strategies such as introduction, supporting examples, summary")
- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #2, #6, #10, #12).

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

  1. **Alberta, Canada**: English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 30.2.2.1.a; 30.2.2.1.c)
  2. **British Columbia, Canada**: *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see B12)
  3. **Finland**: *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 2.CC.1)
  4. **Hong Kong**: *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Reading, bullet 10)
  5. **Ireland**: *Leaving Certificate/English Syllabus* for Higher Level and Ordinary Level (≈ Grades 10-11) (see 4.2.1.b; 4.4.1.c; 4.1.1.b; 5.5.b. Ordinary Level; 5.4.c. Higher Level)
  6. **New South Wales, Australia**: *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see Outcome 4; C-4, 4.1, 4.2, Preliminary)
  7. **Ontario, Canada**: *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.6. Grade 12 Reading and Literature)
  8. **Victoria, Australia**: *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 4, Outcome 2, Key Knowledge 1 and Skill 1; Unit 1, Outcome 1, Key Skills 1 and 4; Unit 1, Outcome 2, Key Knowledge 1 and 2; Unit 2, Outcome 1, Key Knowledge 2 and 4 and Skill 1; Unit 3, Outcome 1, Key Knowledge 2 and Skill 1; Unit 2, Outcome 3, Key Knowledge 2)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- A counterpart of this standard also appears in the English language arts standards of the following :

  1. **England**: *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.2.1 and 2.2.k)
  2. **Singapore**: *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 6.b, 7.c)

- Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills.* Paris, France: Organization for Economic Cooperation and Development. (pg. 116, "Reflecting on and Evaluating the Form of a Text")
- Organization for Economic Cooperation and Development. (2006). *PISA 2006: Science Competencies for Tomorrow's World, Vol. 1* (See pg. 289, example PISA item "Graffiti") (PISA 2006, Vol. 1 full PDF)

Illustrative Alignment with State and Other Standards

- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see I.C.3)
- A counterpart of this standard appears in the English language arts standards from the following states:

  1. **California**: *English-Language Arts Content Standards for California Public Schools* (see Reading 2.2, grades 11-12)
  2. **Massachusetts**: *English Language Arts Curriculum Framework*, June 2001. (see General Standard 13: Nonfiction 13.25, 13.27)

- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see "Critique and Evaluate")

Reading 10. Analyze how specific details and larger portions of the text contribute to the meaning of the text.

College Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (see sample post-secondary assignment #4, pgs. 98-99)
- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Entrance Examination Board (see pg. 7- skills rated by importance to post-secondary instructors- skill #6 "Identifying the purpose of a portion of the text")
- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #2, #10, #12, #16).

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Informational Text 2. Survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see row 9. Survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).

Career Readiness

- ACT. (2006). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT. (pgs. 3-5, see Table 2 "Main Ideas and Supporting Details")

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 30.2.1.2.b; 10/20/30.2.3.2.f)
    2. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 2.0.1)
    3. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.6, Grade 12 Reading & Literature Studies)

- A counterpart of this standard also appears in the English language arts standards of the following:

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 1.4.a)
    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 8.1.c)

- Organization for Economic Cooperation and Development. (2006). *PISA 2006: Science Competencies for Tomorrow's World, Vol. 1* (see pg. 293, Reading Proficiency Level 3) (PISA 2006, Vol. 1 full PDF)
- Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills. Paris, France: Organization for Economic Cooperation and Development.* (see pgs. 112-115, esp. pg.114 "Retrieving Information," and "Forming a Broad General Understanding")

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see pg. 17, F2- in 12 of 12 states analyzed)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Reading Competencies, Comprehension and Retention bullet 6; Reading Competencies, Depth of Understanding bullet 4)
- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see "Locate and Recall", see "Integrate and Interpret")
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools.* (see 2.2.a-e, Writing Applications Grades 11-12)
    2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see General Standard 8: Understanding a Text, 8.33, 8.34, General Standard 15: Style and Language, 15.8)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Reading 11. Synthesize data, diagrams, maps, and other visual elements with words in the text to further comprehension.

College Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (see sample post-secondary assignment #2, pgs. 92-93; sample post-secondary assignment #3, pgs. 94-97)
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Informational Text 5. Survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see Row 28. Survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (Workplace Tasks #1-4, pgs. 74-81.)
- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (See point 2, page 12; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)
- ACT. (2006). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT. (pgs. 3-5, see Table 3 "Data Representation and Statistical Thinking"- WorkKeys Column, Skill 3)
- *Hawai'i Career Ready Study.* (2007). Commissioned by the Hawai'i P-20 Initiative. (see sample task "Build wall frame and building ramp," Construction/Carpenter; sample task "Draft memo to all employees," Hotel/Guest Services Manager; see also F5 for the occupational tasks for which this skill is important.)

Illustrative International Benchmarks

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see B12)
    2. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Numeracy Skills, Senior Secondary, bullet 2 and 1 and 2)
    3. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 2.1, Grade 12 Reading and Literature)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 7.a)

- Organization for Economic Cooperation and Development. (2006). *PISA 2006: Science Competencies for Tomorrow's World, Vol. 1* (see pg. 290, example PISA item "Lake Chad," and pg. 288 example PISA item "Labour") (PISA 2006, Vol. 1 full PDF)
- Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills*. Paris, France: Organization for Economic Cooperation and Development. (pgs. 110-111, "Non-Continuous Texts")

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see pg. 17, F5- in 12 of 12 states analyzed)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Reading Competencies bullet 1)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see I.F.1 and I.F.2)
- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see "Procedural Texts and Documents", see "Integrate and Interpret")
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools* (see 2.1, Reading Comprehension Grades 9-10)

Reading 12. Extract key information efficiently in print and online using text features and search techniques.

College Readiness

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Research 2. Survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see Row 10. Survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** *English Language Arts Curriculum Outcomes*, 2003 (Grades 10-12) (see 10/20/30.3.2.1.b, 10/20/30.2.1.4.a)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package, Prescribed Learning Outcomes*, 2007 (Grade 12) (see B6)
    3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see A| 2.0.4)
- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 9.1.a, 9.1.b)

Illustrative Alignment with State and Other Standards

- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools* (see 2.1, Reading Comprehension Grades 9-10)

Reading 13. Ascertain the origin, credibility, and accuracy of print and online sources.

College Readiness

- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skill #5).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Research 3. Survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see row 18. Survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Career Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (see sample Workplace Task #5, see sample Workplace Task #6, pg. 82-85)
- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see point 4 on pg. 13; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 10/20/30.3.2.2.a, 10/20/30.3.2.2.c, 10/20/30.3.2.2.d)
    2. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see A(2.0.4)
    3. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.5, Grade 12 Writing)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.2.f)
    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 9.1.f)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see pg. 17, E4- in 12 of 12 states analyzed)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Writing Competencies – Style/Expression bullet 4 and Technological Competencies bullet 7)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see III.B.5 and III.B.7*)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools* (see 2.3, Reading Comprehension, Grades 11-12, 2.4, Writing Applications Grades 11-12)

- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see "Multiple Texts")

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Reading 14. Evaluate the reasoning and rhetoric that support an argument or explanation, including assessing whether the evidence provided is relevant and sufficient.

College Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (see sample post-secondary assignment #5, pgs. 100-101)
- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Entrance Examination Board (see pg. 7- skills rated by importance to post-secondary instructors- skill #5 "Distinguish fact from opinion," skill #10 "Identifying logical flaws or discrepancies in an author's argument)
- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #5, #8, #9, #12, #17, #18, #20).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Logic 4. Survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).
- *AP European and World History Course Descriptions* (2009), New York, NY: College Board (see pgs. 21-24 in AP European History for document-based question expectations). AP World and U.S. History also have these expectations.

Career Readiness

- Achieve, Inc. (2004). *The American Diploma Project, Ready or Not: Creating a High School Diploma that Counts.* Washington, DC: Achieve, Inc. (see sample workplace task #6, pg. 84-85)
- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see point 4 on pg. 13 and point 2 on pg. 18; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada**: English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 30.3.2.2.d, 10/20/30/3.2.2.c)
    2. **British Columbia, Canada**: *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see B9)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 4.CC.1 and 3)
4. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Reading bullets 4, 6, 7 and 13; Critical Thinking bullets 1 and 5)
5. **Ireland:** *Leaving Certificate/English Syllabus* for Higher Level and Ordinary Level (≈ Grades 10-11) (see 4.2.1.a-c)
6. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 2, Outcome 3, Key Knowledge 1 and Skills 1 and 2; Unit 3, Outcome 2, Key Knowledge 2)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 1.4.c and 2.2.f)
    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 9.1.e, 7.c)

- Organization for Economic Cooperation and Development. (2006). *PISA 2006: Science Competencies for Tomorrow's World, Vol. 1* (See pg. 289, example PISA item "Graffiti") (PISA 2006, Vol. 1 full PDF)
- Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills.* Paris, France: Organization for Economic Cooperation and Development. (pg. 115, "Reflecting on and Evaluating the Content of a Text")

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see pg. 17, E4 - in 12 of 12 states analyzed)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Fostering Habits of Mind Essential for Success bullet 5)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see III.B.7*)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools* (see Reading 2.8, grades 9-10; Reading 2.0 and 2.6, grades 11-12)
    2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see 8.31 and 8.34, and 13.24, 13.26; and General Standard 13: Nonfiction)

- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see Proficient bullet 5 and Advanced bullets 1, 3 and 5 – Informational, see "Critique and Evaluate")

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Reading 15. Analyze how two or more texts with different styles, points of view, or arguments address similar topics or themes.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Entrance Examination Board (see pg. 7- skills rated by importance to post-secondary instructors- skill #19 "Comparing and contrasting two texts")
- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skill #25).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).
- *AP European and World History Course Descriptions* (2009), New York, NY: College board (see pgs. 21-24 in AP European History for document-based question expectations). AP World and U.S. History also have these expectations.
- *Florida American Diploma Project Survey Results.* (see row 23. Survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Ireland:** *Leaving Certificate/English Syllabus* for Higher Level and Ordinary Level (≈ Grades 10-11) (see 5.5.d, Ordinary; 4.4.1.f and 5.4.d, Higher)
    2. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see Outcome 2; C-2, 2.1, 2.2, 2.3, Preliminary; C-1.1, C-2, 2.1, 2.2, 2.3, HSC)
    3. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.6, Grade 12 Oral Communication)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.2.m and 2.2.n, 1.4.b)

- Organization for Economic Cooperation and Development. (2003). *The PISA 2003 Assessment Framework: Mathematics, Reading, Science and Problem Solving Knowledge and Skills.* Paris, France: Organization for Economic Cooperation and Development. (pg. 115, "Developing an Interpretation")

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Making the Reading/Writing Connection bullet 4)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see I.C.5)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools* (see 3.5, Reading Comprehension grades 9-10, 2.4.b Writing Applications Grades 11-12)
    2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see 10.5, 11.7, 15.10)

- U.S. Dept. of Education. (2009). *Reading Framework for the National Assessment of Educational Progress 2009.* Washington, DC: National Assessment Governing Board. (see Advanced - Literary bullet 4, see "Multiple Texts", see"Integrate and Interpret")

Reading 16. Draw upon relevant prior knowledge to enhance comprehension, and note when the text expands on or challenges that knowledge.

College Readiness

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** *English Language Arts Curriculum Outcomes*, 2003 (Grades 10-12) (see 10/20/30.2.1.3.a , 20.2.1.3.a, 30.2.1.3.b, 30.3.2.3.a, 10/20/30.2.1.1.d)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package, Prescribed Learning Outcomes*, 2007 (Grade 12) (see B5)
    3. **Ontario, Canada:** *The Ontario Curriculum*, English, 2007 (see 1.2 and 1.5 Grade 12 Reading & Literature Studies)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 7.e, 8.1.d and 8.2.e)

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Making the Reading/Writing Connection bullet 3)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Reading 17. Apply knowledge and concepts gained through reading to build a more coherent understanding of a subject, inform reading of additional texts, and to solve problems.

College Readiness

- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pgs. 51-54, and sample exam expectations for literature beginning on 56).
- *AP European and World History Course Descriptions* (2009), New York, NY: College board (see pgs. 21-24 in AP European History for document-based question expectations). AP World and U.S. History also have these expectations.
- ACT. (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 44-45, these data have been re-sorted to clarify which skills are most important to post-secondary instructors, see skill #9, #22, #23, #25).

Career Readiness

- ACT. (2006). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT. (pgs. 3-5, see Table 2, "Sequential, Comparative, and Cause-Effect Relationships," WorkKeys Column, Points 1 and 2)
- ACT (2009) See ACT WorkKeys "Reading for Information" Level 5 requirements (Level 5 is workplace training and college ready).
- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (See point 1, page 12; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.6, Grade 12 Oral Communication)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.2.e)
    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 9.2.f)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. (see pg. 17, E8– in 10 of 12 states analyzed)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools* (2.3, Reading Comprehension Grades 11-12)

Reading 18. Demonstrate facility with the specific reading demands of texts drawn from different disciplines, including history, literature, science, and mathematics.

Disciplinary Literacy Research

The following are a few seminal works of research on disciplinary literacy, which is at the heart of this standard. The sources below cannot be categorized as college or career readiness materials or evidence from a set of standards. Rather, it is general research that provides insight into the field of disciplinary literacy.

- Carnegie Council on Advancing Adolescent Literacy. (2010). *Time to act: An agenda for advancing adolescent literacy for college and career success*. New York, NY: Carnegie Corporation of New York.
- Fang, Z., & Schleppegrell, M. J. (2008). *Reading in secondary content areas.* Ann Arbor: University of Michigan Press.
- Lee, C.D., Spratley, A. (2010). *Reading in the disciplines: The challenges of adolescent literacy*. New York, NY: Carnegie Corporation of New York.
- Moje, E. B., Young, J. P., Readence, J. E., & Moore, D. W. (2000). Reinventing adolescent literacy for new times: Perennial and millennial issues. *Journal of Adolescent and Adult Literacy, 43*, 400–410.
- Schleppegrell, M. J. (2004). *The language of schooling: A functional linguistics perspective.* Mahwah, NJ: Lawrence Erlbaum Associates.
- Shanahan, T., & Shanahan, C. (2008). Teaching disciplinary literacy to adolescents: Rethinking content-area literacy. *Harvard Educational Review, 78*, 40–59.

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Writing Evidence

Writing 1. Establish and refine a topic or thesis that addresses the specific task and audience.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #12, #37).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- *AP European History Course Description* (2009), New York, NY: College board (see pp. 21-24 for document-based question expectations). AP World and US History also have these expectations.
- Conley, D. (2003) *Understanding University Success: English Work Samples.* Eugene, OR: Center for Educational Policy Research.
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #15, #23).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Research 1 and Writing 3; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see rows 5 and 12; survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see point *b* on pg. 24; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 30.3.1.1.a and 10/20/30.3.1.1.c)
    2. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 5.0.3 and AI 8.CC.3)
    3. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.1 and 1.2, Grade 12 Writing)

- A counterpart of this standard also appears in the English language arts standards of the following:

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

1. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 4.b)

Illustrative Alignment with State and Other Standards

- *Intersegmental Committee of the Academic Senates (ICAS).* (2002) Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities. (see Writing Competencies, Invention, bullet 4)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.E.1 & III.A.1)
- A counterpart of this standard appears in the English language arts standards from the following states:

1. **California:** *English-Language Arts Content Standards for California Public Schools*, 1997. (1.0, Writing Strategies Grades 11-12)
2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see General Standard 19: Writing, 19.26, 19.27, 19.30)

Writing 2. Gather the information needed to build an argument, provide an explanation, or address a research question.

College Readiness

- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (See Research 2; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see row 10; survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see pgs. 22-25; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 10/20/30.3.2.1.b)
2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see C6)
3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 2.O.4 and AI 2.CC.3; AI 5.O.3)
4. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see C-10.3, HSC)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.3, Grade 12 Writing)

- A counterpart of this standard also appears in the English language arts standards of the following:

1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.3.h)

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Making the Reading/Writing Connection, bullet 6)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see III.B.1 and III.A.2, III.B)

Writing 3. Sustain focus on a specific topic or argument.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #3, #12).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skill #15).

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 10/20/30.4.1.3.c and 20.4.1.3.e; 20/30.4.2.1.a; 10/20.4.2.2.d)
2. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 8.O.2)
3. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 4, Outcome 1, Key Skill 1)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- A counterpart of this standard also appears in the English language arts standards of the following:

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.3.d-e)
    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 4.b; 4.e; 5.b)

Illustrative Alignment with State and Other Standards

- U.S. Dept. of Education. (2007). *Writing Framework for the 2011 National Assessment of Educational Progress*. Washington, DC: National Assessment Governing Board. (see Holistic Scoring Guides Level 6 "To Persuade"; "To Explain"; "To Convey Experience")
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools*, 1997. (see 1.3, Writing Strategies Grades 11-12)
    2. **Massachusetts**, *English Language Arts Curriculum Framework*, June 2001. (see General Standard 19: Writing, 19.26, 19.27, 19.30)

Writing 4. Support and illustrate arguments and explanations with relevant details, examples, and evidence.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices*. New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #2, #3, #4).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- ACT (2006). *ACT National Curriculum Survey 2005-2006*. Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skill #3).

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 30.4.1.3.e and 20/30.4.1.3.g)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see C7; C8)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

    3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see A(2.CC.3)
    4. **Hong Kong:** *English Language Curriculum and Assessment Guide, 2007*. (≈Grades 10-11) (see bullet 4, Writing)
    5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.4 & 1.5, Grade 12 Writing)
    6. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 1, Outcome 2, Key Skill 3; Unit 4, Outcome 1, Key Skill 1)

- A counterpart of this standard also appears in the English language arts standards of the following:

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.3.h)
    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 4.b-c and 5.c; 9.1.d)

Illustrative Alignment with State and Other Standards

- U.S. Dept. of Education. (2011). *Writing Framework for the 2011 National Assessment of Educational Progress*. Washington, DC: National Assessment Governing Board. (see Proficient Achievement Level, Grade 12, box 3, Holistic Scoring Guides Level 6 "to Persuade"; "To Explain"; "To Convey Experience")
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities*. (see Writing Competencies, Arrangement, bullet 1; Fostering Habits of Mind Essential for Success, bullet 16)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success*. Eugene, OR: Center for Educational Policy Research. (see II.E.2 and IV.B.2)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California**: English-Language Arts Content Standards for California Public Schools, 1997. (see 1.3, Writing Strategies Grades 11-12)
    2. **Massachusetts**, English Language Arts Curriculum Framework, June 2001. (see General Standard 19: Writing, 19.26, 19.27, 19.30)

Writing 5. Create a logical progression of ideas or events, and convey the relationships among them.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices*. New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #3, #7, #9, #21, #26).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- Conley, D. (2003) *Understanding University Success: English Work Samples.* Eugene, OR: Center for Educational Policy Research.
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #4, #9, #12, #17, #19, #22, #29, #30).

Career Readiness

- ACT (2009) See ACT WorkKeys Writing Level 3 requirements (Level 3 is workplace training and college ready).

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 10/20/30.3.2.1.d; 20/30.4.2.2.b; 10/20.4.2.2.d-e)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see C6; C13)
    3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 5.O.3; AI 8.O.2; AI 8.CC.3)
    4. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see bullets 1-3 and 8-9, Writing; bullet 2, Senior Secondary)
    5. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see 9.2 Preliminary)
    6. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.4, 2.6, Grade 12 Writing)
    7. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 2, Outcome 2, Key Skill 5)

- A counterpart of this standard also appears in the English language arts standards of the following:

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.3.c; 2.3.e-f)
    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (See 4.a-b; 4.e-f; 5.b; 5.g)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see C3 - in 12 of 12 states analyzed)
- U.S. Dept. of Education. (2011). *Writing Framework for the 2011 National Assessment of Educational Progress.* Washington, DC: National Assessment Governing Board. (see Advanced Achievement Level, Grade 12, box three, Holistic Scoring Guides Level 6 "to Persuade"; "To Explain"; "To Convey Experience")

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Writing Competencies, Arrangement, bullets 3 and 4)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.D.2 and II.D.4, II.E.2)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools*, 1997. (See 1.3, Writing Strategies Grades 11-12)
    2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see General Standard 19: Writing, 19.26, 19.27, 19.30; General Standard 23: Organizing Ideas in Writing, 23.13, 23.14, 23.15)

Writing 6. Choose words and phrases to express ideas precisely and concisely.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #5, #27).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skill #28).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Language 6 and Writing 2; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 20/30.4.2.3.b)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grades 11-12) (see C12)
    3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 2.CC.1, AI 5.CC.3)
    4. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see bullet 9, Writing; point 5, Senior Secondary)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 2.3, Grade 12 Writing)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see C2- in 12 of 12 states analyzed)
- U.S. Dept. of Education. (2011). *Writing Framework for the 2011 National Assessment of Educational Progress.* Washington, DC: National Assessment Governing Board. (see Advanced Achievement Level, Grade 12, box 5; Holistic Scoring Guides Level 6 "to Persuade"; "To Explain"; "To Convey Experience")
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (Writing Competencies, Style/Expression, bullet 1)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.D.5 & II.E.5)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools*, 1997. (see 1.5, Writing Strategies Grades 11-12)
    2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see General Standard 21: Revising, 21.8, 21.9)

Writing 7. Use varied sentence structures to engage the reader and achieve cohesion between sentences.

College Readiness

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 20/30.4.2.3.c; 20/30.4.2.4.f)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see C12)
    3. **Ireland:** *Leaving Certificate/English Syllabus* for Higher Level and Ordinary Level (≈ Grades 10-11) (see 5.3)
    4. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 2.4, Grade 12 Writing)

- A counterpart of this standard also appears in the English language arts standards of the following:

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.3.g, 2.3.m)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Illustrative Alignment with State and Other Standards

- U.S. Dept. of Education. (2007). *Writing Framework for the 2011 National Assessment of Educational Progress.* Washington, DC: National Assessment Governing Board. (see Holistic Scoring Guides Level 6, bullet 4 "to Persuade"; "To Explain"; "To Convey Experience"; Advanced Achievement Level, Grade 12, box four)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Writing Competencies, Style/Expression, bullet 1)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.D.3)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools*, 1997. (see 1.1, Written and Oral Language Conventions Grades 11-12)
    2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see 19.26, 19.27)

Writing 8. Develop and maintain a style and tone appropriate to the task, purpose, and audience.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #3, #12, #23, #37).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #15, #20).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Writing 2 and 5; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see rows 22 and 26; survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

- *Hawai'i Career Ready Study.* (2007). Commissioned by the Hawai'i P-20 Initiative. (see pgs. 36-38 sample task "Draft memo to all employees," Hotel/Guest Services Manager)
- ACT (2009) See ACT WorkKeys Writing Level 3 requirements (Level 3 is workplace training and college ready).

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 20.4.1.1.c; 10/20/30.4.2.3.a and 20.4.2.3.d)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grades 11-12) (see C12)
    3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 2.CC.1; AI 5.O.3; AI 8.CC.3)
    4. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (See bullets 9 and 12, Writing)
    5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 2.2, Grade 12 Writing)
    6. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 1, Outcome 2, Key Knowledge 4; Unit 3, Outcome 2, Key Knowledge 1)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.3.b)
    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 5.e and 5.g)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see C2 - in 12 of 12 states analyzed)
- U.S. Dept. of Education. (2011). *Writing Framework for the 2011 National Assessment of Educational Progress.* Washington, DC: National Assessment Governing Board. (see Advanced Achievement Level, Grade 12, box 6; Holistic Scoring Guides Level 6, bullet 4 "to Persuade"; "To Explain"; "To Convey Experience")
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Writing Competencies, Invention, bullet 2)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.E.4-6 and II.D.6*)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California**: *English-Language Arts Content Standards for California Public Schools*, 1997. (see 1.2, 1.5, and 1.9, Writing Strategies Grades 11-12)
    2. **Massachusetts**: *English Language Arts Curriculum Framework*, June 2001. (see General Standard 21: Revising, 21.8, 21.9)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Writing 9. Demonstrate command of the conventions of standard written English, including grammar, usage, and mechanics.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #6, #8, #11, #13, #16, #18, #19, #20, #25, #26, #28, #31, #32, #34, #39, #40, #41, #43, #44).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- Conley, D. (2003) *Understanding University Success: English Work Samples.* Eugene, OR: Center for Educational Policy Research.
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #2, #5, #6, #7, #8, #10, #11, #14, #16, #18, #20, #21, #24, #25, #26, #28).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Language 1; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see row 3; survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

- *Hawai'i Career Ready Study.* (2007). Commissioned by the Hawai'i P-20 Initiative. (see pgs. 22-24 sample task "Pass entrance exams for apprenticeship," Military/Navy Shipyard Apprenticeship)
- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see top half, pg. 10; pg. 17; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)
- ACT (2009) See ACT WorkKeys Writing Level 3 requirements (Level 3 is workplace training and college ready).

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 4.2.4.b-g)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grades 11-12) (see C14)
    3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 8.C.4)
    4. **Ireland:** *Leaving Certificate/English Syllabus* for Higher Level and Ordinary Level (≈ Grades 10-11) (see 5.3)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 3.3 and 3.4, Grade 12 Writing)
6. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 1, Outcome 1, Key Skill 7)

- A counterpart of this standard also appears in the English language arts standards of the following:

1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 1.1.c; 2.3.n-o)
2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 5.d; 6.c)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see A1 - in 12 of 12 states analyzed)
- U.S. Dept. of Education. (2011). *Writing Framework for the 2011 National Assessment of Educational Progress.* Washington, DC: National Assessment Governing Board. (see Advanced Achievement Level, Grade 12, box 7; Holistic Scoring Guides Level 6, bullet 4 "to Persuade"; "To Explain"; "To Convey Experience")
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Writing Competencies, Style/Expression, bullet 2)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.A & II.B)
- A counterpart of this standard appears in the English language arts standards from the following states:

1. **California:** *English-Language Arts Content Standards for California Public Schools*, 1997. (see 1.1 and 1.2, Written and Oral English Language Conventions Grades 11-12)
2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. see 5.28, 5.30; 21.8; General Standard 22: Standard English Conventions, 22.9, 22.10)

Writing 10. Represent and cite accurately the data, conclusions, and opinions of others, effectively incorporating them into one's own work while avoiding plagiarism.

College Readiness

- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- *AP European History Course Description* (2009), New York, NY: College board (see pp. 21-24 for document-based question expectations). AP World and US History also have these expectations.
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skill #13).

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Writing 6; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (See row 21; survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see point 4 on pg. 25; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 3.2.1.c; 3.2.1.e)
2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see C14)
3. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (1.3, Grade 12 Writing)
4. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 3, Outcome 3, Key Skill 5)

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Writing Competencies, "Students will be assigned writing tasks…," bullet 14; Technology Competencies, bullet 8)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.D.7; III.B.4; III.B.6)
- A counterpart of this standard appears in the English language arts standards from the following states:

1. **California**: *English-Language Arts Content Standards for California Public Schools*, 1997. (See 1.7, Writing Strategies Grades 9-10)
2. **Massachusetts**, *English Language Arts Curriculum Framework*, June 2001. (see 24.5)

Writing 11. Assess the quality of one's own writing, and, when necessary, strengthen it through revision.

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #7, #12, #16, #24, #33, #37).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skill #15).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Writing 4 and 5; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see rows 16 and 22; survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 20/30.4.2.1.a-d; 30.4.2.2.a, 20/30.4.2.2.b-c, 10/20.4.2.2.d-e)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see C7)
    3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (AI 2.O.2; AI 2.CC.3; AI 5.O.3; AI 8.CC.3)
    4. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see bullet 7, Writing; see Senior Secondary, bullet 2)
    5. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see C-12.1-12.4, Preliminary)
    6. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 2.7, Grade 12 Writing)
    7. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 1, Outcome 1, Key Skill 5; Unit 1, Outcomes 2, Key Knowledge 4; Unit 1, Outcome 3, Key Skill 3)

- A counterpart of this standard also appears in the English language arts standards of the following :

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.3.l; 4.3.e)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 5.f)

Illustrative Alignment with State and Other Standards

- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.F)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Writing Competencies, Arrangement, bullet 6 and Style/Expression, bullet 2)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools*, 1997. (See 1.9, Writing Strategies Grades 9-12)
    2. **Massachusetts**, *English Language Arts Curriculum Framework*, June 2001. (see General Standard 21: Revising, 21.8, 21.9)

Writing 12. Use technology as a tool to produce, edit, and distribute writing.

College Readiness

Career Readiness

- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (See Writing 8; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Information Technology, Senior Secondary, bullet 4)
    2. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see C-9.1, HSC)
    3. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 3.5-3.6, Grade 12 Writing)

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Technology Competencies, bullets 1-2)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Writing 13. Synthesize information from multiple relevant sources, including graphics and quantitative information when appropriate, to provide an accurate picture of that information.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #2, #5, #15, #29).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- *AP European History Course Description* (2009), New York, NY: College board (see pp. 21-24 for document-based question expectations). AP World and US History also have these expectations.
- Conley, D. (2003) *Understanding University Success: English Work Samples.* Eugene, OR: Center for Educational Policy Research.
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #3).
- *Florida American Diploma Project Survey Results.* (see row 24; survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

- *Hawai'i Career Ready Study.* (2007). Commissioned by the Hawai'i P-20 Initiative. (See pgs. 18-19 sample task "Review claim letter," Insurance/Claims Agent)
- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see pgs. 22-23; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 30.3.2.3.a)
    2. **British Columbia, Canada:** English Language Arts Integrated Resource Package, Prescribed Learning Outcomes, 2007 (Grade 12) (see C8 and C10)
    3. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see bullet 2, Writing; Information Technology Skills, Senior Secondary 1;Study Skills, Senior Secondary, bullet 1)
    4. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see 10.1, Preliminary; Outcome 7, HSC)
    5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.3, Grade 12 Writing)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- A counterpart of this standard also appears in the English language arts standards of the following:

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.2.e)
    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 9.1.b)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see E7 - in 12 of 12 states analyzed)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Fostering Habits of Mind Essential for Success, bullet 4; Writing Competencies, "Students will be assigned writing tasks…" bullet 5)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.E.8*, and III.B.6)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California**: *English-Language Arts Content Standards for California Public Schools*, 1997. (see 2.3, Writing Applications Grades 9-10, 1.4, Writing Strategies Grades 11-12; 2.4.a-d, Writing Applications Grades 11-12)

Writing 14. Convey complex information clearly and coherently to the audience through purposeful selection and organization of content.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #2, #5, #12, #15, #29, #37).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #3, #4, #12, #15).

Career Readiness

- ACT (2009) See ACT WorkKeys Writing Level 3 requirements (Level 3 is workplace training and college ready).
- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see point 2 on pg. 19; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 10/20/30.3.2.1.d)
    2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see C4)
    3. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see "Work with others", dash 1. Language Development)
    4. **Ireland:** *Leaving Certificate/English Syllabus for Higher Level and Ordinary Level* (≈ Grades 10-11) (see 5.5.e. Ordinary Level; 5.4.e. Higher Level)
    5. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see Outcome 7. HSC; 10.3. Preliminary)
    6. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.4 & 2.1, Grade 12 Writing)

- A counterpart of this standard also appears in the English language arts standards of the following:

    1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 1.1.a; 2.3.c)
    2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 9.1.b)

Illustrative Alignment with State and Other Standards

- U.S. Dept. of Education. (2011). *Writing Framework for the 2011 National Assessment of Educational Progress*. Washington, DC: National Assessment Governing Board. (see Holistic Scoring Guide for "To Explain" Level 6)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities*. (see Writing Competencies, Invention, bullet 2; Arrangement, bullets 3 & 4)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success*. Eugene, OR: Center for Educational Policy Research. (see II.E.8*, II.D.2, II.D.4)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools*, 1997. (see 2.3 and 2.6.a. Writing Applications Grades 9-10)
    2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see General Standard 19: Writing, 19.26, 19.30)

Writing 15. Demonstrate understanding of content by reporting facts accurately and anticipating reader misconceptions.

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices*. New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #2, #5, #12, #15, #29, #37).
- ACT (2006). *ACT National Curriculum Survey 2005-2006*. Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #3, #15).

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1.**British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see C2; C4)

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities*. (see Writing Competencies, "Students will be assigned writing tasks…," bullets 6 & 7)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success*. Eugene, OR: Center for Educational Policy Research. (see II.E.8*)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California:** *English-Language Arts Content Standards for California Public Schools*, 1997. (see 2.3 & 2.6.d. Writing Applications Grades 9-10)

Writing 16. Establish a substantive claim, distinguishing it from alternate or opposing claims.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices*. New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #4, #5, #10, #12, #14, #29).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- *AP European History Course Description* (2009), New York, NY: College board (see pp. 21-24 for document-based question expectations). AP World and US History also have these expectations.
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #23).
- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Logic 9; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see row 7; survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see point /3 on pg. 21; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

  1. **British Columbia, Canada:** English Language Arts Integrated Resource Package, Prescribed Learning Outcomes, 2007 (Grade 12) (see A2, C2, C4)
  2. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 4.CC.3-5)
  3. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see bullets 3 and 11, Writing, see Communication Skills, Senior Secondary, bullet 2)
  4. **Ireland:** *Leaving Certificate/English Syllabus for Higher Level and Ordinary Level* (≈ Grades 10-11) (see 4.2.2.a-b; 5.4.e, Higher Level)
  5. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see 6.2, HSC)
  6. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 3, Outcome 3, Key Knowledge 4 & Skill 3)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see E9 - in 11 of 12 states analyzed)
- U.S. Dept. of Education. (2011). *Writing Framework for the 2011 National Assessment of Educational Progress.* Washington, DC: National Assessment Governing Board. (see Holistic Scoring Guide for "To Persuade" Level 6)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.E.2)
- A counterpart of this standard appears in the English language arts standards from the following states:

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

1. **California:** *English-Language Arts Content Standards for California Public Schools*, 1997. (see 2.4, Writing Applications Grades 9-10)
2. **Massachusetts**, *English Language Arts Curriculum Framework*, June 2001. (see 19,30)

Writing 17. Link claims and evidence with clear reasons, and ensure that the evidence is relevant and sufficient to support the claims.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #4, #5, #10, #14, #29, #30).
- *AP English Language and Composition and English Literature and Composition Course Description* (2008), New York, NY: College Board (see pg. 11 for course expectations).
- *AP European History Course Description* (2009), New York, NY: College board (see pp. 21-24 for document-based question expectations). AP World and US History also have these expectations.
- Conley, D. (2003) *Understanding University Success: English Work Samples.* Eugene, OR: Center for Educational Policy Research.
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #1, #3, #4, #12, #15).

Career Readiness

- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see f3, pg. 21; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

  1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 20.4.1.3.f; 20/30.4.2.1.c)
  2. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see 6.2, HSC; 10.2 and 10.3, HSC)
  3. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.4 and 1.5, Grade 12 Writing)
  4. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 1, Outcome 2, Key Skill 3; Unit 4, Outcome 2, Key Skills 2-3; Unit 3, Outcome 3, Key Knowledge 4 & Skill 3)

- A counterpart of this standard also appears in the English language arts standards of the following:

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.3.h-i)
2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 9.1.d)

Illustrative Alignment with State and Other Standards

- U.S. Dept. of Education. (2011). *Writing Framework for the 2011 National Assessment of Educational Progress.* Washington, DC: National Assessment Governing Board. (see Holistic Scoring Guide for "To Persuade" Level 6)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Fostering Habits of Mind Essential for Success, bullet 16)
- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.E.2; II.E.3; IV.B.2)
- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California**: *English-Language Arts Content Standards for California Public Schools*, 1997. (see Writing Applications Grades 9-10; 2.2.c and 2.4.a-e, Writing Applications Grades 11-12; 1.3)
    2. **Massachusetts**: *English Language Arts Curriculum Framework*, June 2001. (see General Standard 19: Writing, 19.26, 19.30)

Writing 18. Acknowledge competing arguments or information, defending or qualifying the initial claim as appropriate.

College Readiness

- Milewski, G.B., Johnsen, D., Glazer, N., & Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT® Writing and Critical Reading Sections to Curricula and Instructional Practices.* New York, NY: College Board (see pgs. 10 and 12, these data have been sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #4, #5, #10, #12, #14, #29).
- *AP European History Course Description* (2009), New York, NY: College board (see pp. 21-24 for document-based question expectations). AP World and US History also have these expectations.
- ACT (2006). *ACT National Curriculum Survey 2005-2006.* Iowa City, IA: ACT. (pgs. 39-40, these data have been re-sorted by importance to clarify which skills are most important to post-secondary instructors, see skills #15).

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

    1. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see B9)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

2. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see "Plan…", dash five, Language Development)
3. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 3, Outcome 2, Key Skill 3)

Illustrative Alignment with State and Other Standards

- Conley, D.T. (2003) *Understanding University Success: A Report from Standards for Success.* Eugene, OR: Center for Educational Policy Research. (see II.E.4)
- U.S. Dept. of Education. (2011). *Writing Framework for the 2011 National Assessment of Educational Progress.* Washington, DC: National Assessment Governing Board. (see Holistic Scoring Guide for "To Persuade" Level 6)

- A counterpart of this standard appears in the English language arts standards from the following states:

    1. **California**: *English-Language Arts Content Standards for California Public Schools*, 1997. (see 2.4, Writing Applications Grades 9-10)
    2. **Massachusetts**, *English Language Arts Curriculum Framework*, June 2001. (see 19.30)

2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 4.b and 4.e)

Illustrative Alignment with State and Other Standards

- A counterpart of this standard appears in the English language arts standards from the following states:

1. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see General Standard 2, 2.5)
2. **Texas:** *Texas College Readiness Standards*, (2008). (see pg. 4-5, Speaking, B.3)

Speaking 3. Make strategic use of multimedia elements and visual displays of data to gain audience attention and enhance understanding.

College Readiness

Career Readiness

- *Missouri Career Prep Certificate Program Planning Guide*, Missouri Department of Elementary and Secondary Education. (see pg. A5, Communication: Written, Verbal, and Listening, Performance skill 4)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 10.4.1.4.b, 20.4.1.4.b and 10/20/30.4.1.4.c)
2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see A6)
3. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Information Technology, Senior Secondary, bullets 3-5)
4. **New South Wales, Australia:** *English Stage 6 Syllabus*, 1999 (Grades 11-12) (see C-5, 5.3, Preliminary)
5. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 2.7, Grade 12 Oral Communication; 3.4, Grade 12 Media Studies)
6. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 1, Outcome 2, Key Skills 1 and 4; Unit 2, Outcome 3, Key Knowledge 5 and Key Skill 3)

- A counterpart of this standard also appears in the English language arts standards of the following:
  1. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 4.a, 4.c)

Illustrative Alignment with State and Other Standards

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see E4, in 12 of 12 states analyzed)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Fostering Habits of Mind Essential for Success, bullet 5; Listening and Speaking Competencies in Academic Settings, bullet 2)
- A counterpart of this standard appears in the English language arts standards from the following states:

1. **California:** *English-Language Arts Content Standards for California Public Schools.* (see 2.6, Grades 11-12; 2.4, Grades 11-12)
2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see General Standard 27: Media Production, 27.6)

Speaking 4. Demonstrate command of formal Standard English when appropriate to task and audience.

College Readiness

- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (see Language 1; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (see row 3; survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (see pgs. 16-17, 19); data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

1. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see A12)
2. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Speaking, "Present Information..." bullet 4)
3. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 3, Outcome 1, Key Skill 6)

- A counterpart of this standard also appears in the English language arts standards of the following:

1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.1.a)
2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 3.e)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Speaking & Listening Evidence

Speaking 1. Select and use a format, organization, and style appropriate to the topic, purpose, and audience.

College Readiness

Career Readiness

- *The American Diploma Project Workplace Study*. (2002). Washington, DC: National Alliance of Business. (See pg. 19; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)
- Qualifications and Curriculum Authority. (2007). *Functional Skills and Standards*. (see pg. 12, Speaking and Listening Level 2, bullet 3)
- *Missouri Career Prep Certificate Program Planning Guide*, Missouri Department of Elementary and Secondary Education. (see pg. A5, Communication: Written, Verbal, and Listening, Knowledge skill 2)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

  1. **Alberta, Canada:** *English Language Arts Curriculum Outcomes*, 2003 (Grades 10-12) (see 10.4.1.4.b, 10/20/30.4.1.4.c)
  2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package, Prescribed Learning Outcomes*, 2007 (Grade 12) (see A6, A12)
  3. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Speaking, bullets 1, 4, and 5)
  4. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 2.1 - 2.6, Grade 12 Oral Communication)
  5. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 3, Outcome 1, Key Skills 6-7)

- A counterpart of this standard also appears in the English language arts standards of the following :

  1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.1.a-c)
  2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 3.a-f, 4.a-f)

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities*. (see Fostering Habits of Mind Essential for Success, bullet 7; Speaking, bullets 1-4)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- A counterpart of this standard appears in the English language arts standards from the following states:

  1. **California:** *English-Language Arts Content Standards for California Public Schools*. (see 1.3, Grades 9-10; 1.8-1.10, Grades 11-12)
  2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see General Standard 3: Oral Presentation, 3.17)
  3. **Texas:** *Texas College Readiness Standards*, (2008). (see pg. 4-5, Speaking, A.1-2)

Speaking 2. Present information, findings, and supporting evidence clearly and concisely.

College Readiness

Career Readiness

- *The American Diploma Project Workplace Study*. (2002). Washington, DC: National Alliance of Business. (See pg. 19; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)
- Casner-Lotto, J., Rosenblum, E., and Wright, M., *The Ill-Prepared Workforce*. (2009). The Conference Board. (see pg. 22, Oral Communications)
- Qualifications and Curriculum Authority. (2007). *Functional Skills and Standards*. (see pg. 12, Speaking and Listening Level 2, bullet 2)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

  1. **British Columbia, Canada:** *English Language Arts Integrated Resource Package, Prescribed Learning Outcomes*, 2007 (Grade 12) (see A8, A9)
  2. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see A1 4.0.2)
  3. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Speaking, bullets 1-2)
  4. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 2.3, Grade 12 Oral Communication)
  5. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 2, Outcome 3, Key Knowledge, bullet 5)

- A counterpart of this standard also appears in the English language arts standards of the following :

  1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (2.1.b)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see A1, in 12 of 12 states analyzed)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Fostering Habits of Mind Essential for Success, bullet 5; Listening and Speaking Competencies in Academic Settings, bullet 2)

Speaking 5. Listen to complex information, and discern the main ideas, the significant details, and the relationships among them.

College Readiness

- *Virginia Postsecondary Outreach Campaign and Data Collection, Essential English Skills Analysis.* (See Communication 2 and 3; survey of multi-disciplinary faculty teams at 30 higher education institutions; included if average rating is at least 7.5 on a scale of 10)
- *Florida American Diploma Project Survey Results.* (See rows 11 and 27; survey of faculty members at 18 public higher education institutions; included if average rating is at least 7.5 on a scale of 10)

Career Readiness

- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (See point 1, pg. 18; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)
- *Missouri Career Prep Certificate Program Planning Guide,* Missouri Department of Elementary and Secondary Education. (see pg. A5, Communication: Written, Verbal, and Listening, Knowledge skill 3 and Performance skill 5)
- Qualifications and Curriculum Authority. (2007). *Functional Skills and Standards.* (see pg. 12, Speaking and Listening Level 2, bullet 1)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

  1. **Alberta, Canada:** English Language Arts Curriculum Outcomes, 2003 (Grades 10-12) (see 10/20.2.1.2.b)
  2. **British Columbia, Canada:** English Language Arts Integrated Resource Package, Prescribed Learning Outcomes, 2007 (Grade 12) (see A3, A7, A8)
  3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 1.CC.3 and 1.CC.5)
  4. **Hong Kong:** *English Language Curriculum and Assessment Guide,* 2007. (≈Grades 10-11) (see Listening, bullets 1 and 2)
  5. **Ireland:** *Leaving Certificate/English Syllabus for Higher Level and Ordinary Level* (≈ Grades 10-11) (see 4.1.1.a, 4.1.1.c)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

  6. **Ontario, Canada:** *The Ontario Curriculum, English,* 2007 (Grades 11-12) (see 1.4-1.6, Grade 12 Oral Communication)

- A counterpart of this standard also appears in the English language arts standards of the following :

  1. **England:** English Programme of Study for Key stage 4, 2005 (≈ Grades 10-11) (see 2.1.f)
  2. **Singapore:** English Language Syllabus 2001, Learning Outcomes for O-Levels (≈ Grades 10-11) (See 2.c, 2.e, 3.3.a-c)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see B4, in 11 of 12 states analyzed)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (Listening, bullet 2)
- A counterpart of this standard appears in the English language arts standards from the following states: S

  1. **Massachusetts:** *English Language Arts Curriculum Framework,* June 2001. (see General Standard 2, 2.5)
  2. **Texas:** *Texas College Readiness Standards,* (2008). (see pg. 4-5, Listening, A.2-3, B.1-3)

Speaking 6. Follow the progression of the speaker's message, and evaluate the speaker's point of view, reasoning, and use of evidence and rhetoric.

College Readiness

Career Readiness

- *The American Diploma Project Workplace Study.* (2002). Washington, DC: National Alliance of Business. (See point 2, pg. 18; data gathered through employer feedback from 21 organizations in eight states representing over 10 industries)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

  1. **Alberta, Canada:** *English Language Arts Curriculum Outcomes,* 2003 (Grades 10-12) (see 30.2.2.2.f, 30.3.2.2.a-d)
  2. **British Columbia, Canada:** *English Language Arts Integrated Resource Package, Prescribed Learning Outcomes,* 2007 (Grade 12) (see A9)

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

3. **Finland:** *National Core Curriculum for Upper Secondary Schools* for Mother Tongue and Literature, Finnish as the mother tongue, 2003 (≈ Grades 10-12) (see AI 2.0.1, AI 7.0.3)
4. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Listening, bullets 6-7; Critical Thinking Skills, number 2 and bullets 1-4)
5. **Ireland:** *Leaving Certificate/English Syllabus for Higher Level and Ordinary Level* (≈ Grades 10-11) (see 4.1.1.d-f, 4.2.1.a-g, 4.3.1.a)
6. **Ontario, Canada:** *The Ontario Curriculum, English*, 2007 (Grades 11-12) (see 1.7 & 1.8, Grade 12 Oral Communication)
7. **Victoria, Australia:** *Victorian Certificate of Education Study Design: English/English as a Second Language*, 2007 (≈ Grades 11-12) (see Unit 2, Outcome 3, Key Skill bullets 1 and 2)

- A counterpart of this standard also appears in the English language arts standards of the following :

1. **England:** *English Programme of Study* for Key stage 4, 2005 (≈ Grades 10-11) (see 1.4.c-d, 2.1.g)
2. **Singapore:** *English Language Syllabus 2001*, Learning Outcomes for O-Levels (≈ Grades 10-11) (see 9.2.c, 9.3.b)

Illustrative Alignment with State and Other Standards

- *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up.* (2008). Washington, DC: Achieve. 2008. (see E4, in 12 of 12 states analyzed)
- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Fostering Habits of Mind Essential for Success, bullet 5; Listening and Speaking, Listening, bullet 2)
- A counterpart of this standard appears in the English language arts standards from the following states:

1. **California:** *English-Language Arts Content Standards for California Public Schools.* (see 1.12, 1.13, Grades 9-10)
2. **Massachusetts:** *English Language Arts Curriculum Framework*, June 2001. (see 3.15)
3. **Texas:** *Texas College Readiness Standards*, (2008). (see pg. 4-5, Listening, A.1-3)

Speaking 7. Ask relevant questions to clarify points and challenge ideas.

College Readiness

Career Readiness

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

1. **British Columbia, Canada:** *English Language Arts Integrated Resource Package*, Prescribed Learning Outcomes, 2007 (Grade 12) (see A7)

- A counterpart of this standard also appears in the English language arts standards of the following :

1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.1.e)

Illustrative Alignment with State and Other Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities.* (see Fostering Habits of Mind Essential for Success, bullet 7; Listening and Speaking, Speaking, bullets 1 and 3)
- A counterpart of this standard appears in the English language arts standards from the following states:

Massachusetts: *English Language Arts Curriculum Framework*, June 2001. (see General Standard 2: Questioning, Listening, and Contributing)

Speaking 8. Respond constructively to advance a discussion and build on the input of others.

College Readiness

Career Readiness

- *Missouri Career Prep Certificate Program Planning Guide*, Missouri Department of Elementary and Secondary Education. (see pg. A5, Communication: Written, Verbal, and Listening-Performance skill 2)
- Qualifications and Curriculum Authority. (2007). *Functional Skills and Standards.* (see pg. 12, Speaking and Listening Level 2, bullets 1 and 4)

Illustrative International Benchmarks

- A counterpart of this standard appears in the English language arts standards and learning outcomes from the following high performing countries, as defined by their top 10 ranking on the 2006 Programme of International Student Assessment (PISA) Reading Scale:

1. **Hong Kong:** *English Language Curriculum and Assessment Guide*, 2007. (≈Grades 10-11) (see Speaking, "Participate Effectively...", bullets 3-4 and 6)

- A counterpart of this standard also appears in the English language arts standards of the following :

1. **England:** *English Programme of Study for Key stage 4*, 2005 (≈ Grades 10-11) (see 2.1.d-e)

Illustrative Alignment with State and Other Standards

Evidence for Individual Reading, Writing, and Speaking and Listening Standards

- Intersegmental Committee of the Academic Senates (ICAS). (2002) *Academic Literacy: A Statement of Competencies Expected of Students Entering California's Public Colleges and Universities*. (see Fostering Habits of Mind Essential for Success, bullet 7; Listening and Speaking, Speaking, bullets 1-4)
- A counterpart of this standard appears in the English language arts standards from the following states:

1. **Massachusetts**: *English Language Arts Curriculum Framework*, June 2001. (see General Standard 1: Discussion; General Standard 2: Questioning, Listening, and Contributing)
2. **Texas:** *Texas College Readiness Standards*, (2008). (see pg. 4-5, Listening, B.1)

Appendix B2: Draft Standards in ELA and Mathematics

Evidence for Individual Math Standards

What follows is a sample of sources consulted in the drafting of the core math standards. Citations are organized by the standard to which they pertain. For example, all sources with specific relevance to standard #2 (Number) are listed below that standard. Each citation contains a link to the section of the source document that is relevant to the core math standard to which it corresponds. For more information on sources and how they were used in the drafting of the math standards, please refer to the "College and Career Readiness Standards for Mathematics."

1. Mathematical Practice

2. Number

National Reports

- *NAEP Math Framework 2009* – Number Properties and Operations Strand (p. 7-8 description, standards follow)
- AMATYC, *Crossroads* - Standard C-1 Number Sense
- NCTM, *Focal Points* - Number and Operations Focal Points
- NCTM *Principles and Standards* - Number and Operations Standard

College Readiness

- ACT *College Readiness Standards* - Basic Operations and Applications; Numbers: Concepts & Properties
- *Advanced Placement Computer Science*, Statistics and Computer Science Course Descriptions - Computer Science Prerequisite (p.7)
- Conley, D.T. (2008). *Knowledge and Skills for University Success* - Computation Strand (p.31-32), Mathematical Reasoning (p. 35-37)
- *College Board Standards for College Success*: Mathematics and Statistics. College Board, (2006) - Middle School Math Standards p.iii
- *Ready or Not: Creating a High School Diploma That Counts.* American Diploma Project, (2004) - Number sense and Numerical Operations Strand

Illustrative International Benchmarks

- **Alberta** - General Outcomes - Number Strand p. 3
- **Belgium** - 2 Number theory and algebra strand
- **China** - Numbers and Algebra strand
- **Chinese Taipei** - 1. Numbers and Coordinate system, pgs. 31-32
- **England** - Number and Algebra
- **Hong Kong** - Number and Algebra Dimension
- **India** - Number Systems Unit, Grade 9
- **Ireland** – Leaving Certificate - Arithmetic
- **Japan** - Math I course
- **Korea** - Strand A Numbers and Operations
- **Singapore** - Topic 1 Numbers and Algebra
- Program for International Student Assessment (PISA), (2006) - Quantity Overarching Idea (p. 89-92)
- Trends in International Mathematics and Science Study (TIMSS), (2007) - Number

Evidence for Individual Math Standards

- International Baccalaureate, Mathematics Standard Level, (2006) - Prior Knowledge (Number and Algebra)
- EdExcel, General Certificate of Secondary Education, Mathematics, (2009) - Number and Algebra

Illustrative Alignment with State and Other Standards

- **California** - State Standards - Algebra I
- **Florida** - State Standards – Algebra
- **Georgia** - State Standards - Number and Operations (throughout)
- **Massachusetts** - State Standards - Number Sense and Operations
- **Minnesota** - State Standards - Algebra Strand

3. Quantity

National Reports

- *NAEP Math Framework 2009* – Measurement Strand (p. 13-14 description, standards follow. Strand called "Geometry and Measurement" in grade 12)
- AMATYC, *Crossroads* - Standard C-3: Geometry
- NCTM, *Focal Points* - Number and Operations and Measurement Focal Points
- NCTM *Principles and Standards* - Measurement Standard

College Readiness

- ACT *College Readiness Standards* - Numbers: Concepts & Properties; Measurement
- Conley, D.T. (2008). *Knowledge and Skills for University Success* - General Foundation Skills (Natural Science Standards) (p.44)
- *Ready or Not: Creating a High School Diploma That Counts.* American Diploma Project, (2004) - Number sense and Numerical Operations

Illustrative International Benchmarks

- **Alberta** - General Outcomes - Number Strand
- **China** - Numbers and Algebra ; Space and Figures Strands
- **England** - Geometry and Measures Strand
- **Hong Kong** - Measures, Shape and Space Dimension
- **Singapore** - Topic 1 Numbers and Algebra; Topic 2 Geometry and Measurement
- Program for International Student Assessment (PISA), (2006) - Quantity Overarching Idea
- Trends in International Mathematics and Science Study (TIMSS), (2007) - Number
- International Baccalaureate, Mathematics Standard Level, (2006) - Prior Knowledge (Number and Algebra), pgs. 2-3
- EdExcel, General Certificate of Secondary Education, Mathematics, (2009) - Shape, space and measures

Illustrative Alignment with State and Other Standards

- **California** - State Standards - Throughout Measurement and Geometry strand in K-7 (e.g. p. 32)
- **Florida** - State Standards – Algebra; Financial Literacy
- **Massachusetts** - State Standards - Measurement

Appendix B2: Draft Standards in ELA and Mathematics

Evidence for Individual Math Standards

- **Minnesota** - State Standards - Geometry and Measurement Strand

4. Expressions

National Reports

- *NAEP Math Framework 2009* – Number Properties and Operations Strand (p. 7-8 description, standards follow); Algebra Strand (p. 30-31 description, standards follow)
- AMATYC, *Crossroads* - Standard C-2: Symbolism and Algebra
- NCTM, *Focal Points* - Number and Operations and Algebra Focal Points
- NCTM *Principles and Standards* - Number and Operations Standard; Algebra Standard

College Readiness

- ACT *College Readiness Standards* - Expressions, Equations & Inequalities
- *Advanced Placement Calculus*, Statistics and Computer Science Course Descriptions - Calculus Prerequisite (p.6); Statistics Prerequisite (p.6); Computer Science Prerequisite (p.7)
- Conley, D.T. (2008). *Knowledge and Skills for University Success* - Computation Strand (p.31-32); Algebra Strand (p32-34)
- *College Board Standards for College Success*: Mathematics and Statistics. College Board, (2006) - Algebra I Standards (p.v); Algebra II Standards (p.vii)
- *Ready or Not: Creating a High School Diploma That Counts*. American Diploma Project, (2004) - Algebra Strand

Illustrative International Benchmarks

- **Alberta** - General Outcomes - Patterns and Relations Strand
- **Belgium** - 2 Number theory and algebra Strand
- **China** - Numbers and Algebra strand
- **Chinese Taipei** - 3. Polynomials, pgs. 32-33
- **England** - Number and Algebra
- **Finland** - MAB1 Expressions and equations
- **Hong Kong** - Number and Algebra Dimension
- **India** - Algebra Unit, Grade 10
- **Ireland** – Leaving Certificate - Algebra
- **Japan** - Math I course p. 59
- **Korea** - Strand B Variables and Expressions
- **Singapore** - Topic 1 Numbers and Algebra
- Trends in International Mathematics and Science Study (TIMSS), (2007) - Algebra
- International Baccalaureate, Mathematics Standard Level, (2006) - Prior Knowledge (Number and Algebra)
- EdExcel, General Certificate of Secondary Education, Mathematics, (2009) - Number and Algebra

Illustrative Alignment with State and Other Standards

- **California** - State Standards - Algebra I; Algebra II
- **Florida** - State Standards – Algebra
- **Georgia** - State Standards –Mathematics 3, Algebra
- **Massachusetts** - State Standards - Patterns, Relations and Algebra
- **Minnesota** - State Standards - Algebra Strand

Evidence for Individual Math Standards

5. Equations

National Reports

- *NAEP Math Framework 2009* – Number Properties and Operations Strand (p. 7-8 description, standards follow); Algebra Strand (p. 30-31 description, standards follow)
- AMATYC, *Crossroads* - Standard C-2: Symbolism and Algebra
- NCTM, *Focal Points* - Number and Operations and Algebra Focal Points
- NCTM *Principles and Standards* - Number and Operations Standard; Algebra Standard

College Readiness

- ACT *College Readiness Standards* - Expressions, Equations & Inequalities
- *Advanced Placement Calculus*, Statistics and Computer Science Course Descriptions - Calculus Prerequisite (p.6); Statistics Prerequisite (p.6); Computer Science Prerequisite (p.7)
- Conley, D.T. (2008). *Knowledge and Skills for University Success* - Computation Strand (p.31-32); Algebra Strand (p32-34)
- *College Board Standards for College Success*: Mathematics and Statistics. College Board, (2006) - Algebra I Standards (p.v); Algebra II Standards (p.vii)
- *Ready or Not: Creating a High School Diploma That Counts*. American Diploma Project, (2004) - Algebra Strand

Illustrative International Benchmarks

- **Alberta** - General Outcomes – Patterns and Relations Strand
- **Belgium** - 2 Number theory and algebra Strand
- **China** - Numbers and Algebra strand
- **Chinese Taipei** - 3. Polynomials, pgs. 32-33
- **England** - Number and Algebra
- **Finland** - MAB1 Expressions and equations
- **Hong Kong** - Number and Algebra Dimension
- **India** - Algebra Unit
- **Ireland** – Leaving Certificate - Algebra
- **Japan** – Math I course; Math II course
- **Korea** - Strand B Variables and Expressions
- **Singapore** - Topic 1 Numbers and Algebra
- Program for International Student Assessment (PISA), (2006) - Change and Relationships Overarching Idea (p. 86-89)
- Trends in International Mathematics and Science Study (TIMSS), (2007) - Algebra
- International Baccalaureate, Mathematics Standard Level, (2006) - Functions and Equations, pgs. 4-5; Prior Knowledge (Number and Algebra), pgs. 2-3
- EdExcel, General Certificate of Secondary Education, Mathematics, (2009) - Number and Algebra

Illustrative Alignment with State and Other Standards

- **California** - State Standards - Algebra I; Algebra II
- **Florida** - State Standards – Algebra
- **Georgia** - State Standards – Mathematics 3, Algebra
- **Massachusetts** - State Standards - Patterns, Relations and Algebra
- **Minnesota** - State Standards - Algebra Strand

Appendix B2: Draft Standards in ELA and Mathematics

Evidence for Individual Math Standards

6. Functions

National Reports

- NAEP *Math Framework 2009* – Number Properties and Operations Strand (p. 7-8 description, standards follow); Algebra Strand (p. 30-31 description, standards follow)
- AMATYC, *Crossroads* - Standard C-4: Function
- NCTM, *Focal Points* - Algebra Focal Points
- NCTM *Principles and Standards* - Algebra Standard

College Readiness

- ACT *College Readiness Standards* – Functions
- *Advanced Placement Calculus*, Statistics and Computer Science Course Descriptions - Calculus Prerequisite (p.6); Statistics Prerequisite (p.6); Computer Science Prerequisite (p.7)
- Conley, D.T. (2008). *Knowledge and Skills for University Success* - Algebra Strand (p32-34)
- *College Board Standards for College Success*: Mathematics and Statistics. College Board, (2006) - Algebra II Standards (p.vii)
- *Ready or Not: Creating a High School Diploma That Counts*. American Diploma Project, (2004) - Algebra Strand

Illustrative International Benchmarks

- **Alberta** - General Outcomes - Patterns and Relations Strand
- **Belgium** - 3 Real functions
- **China** - Numbers and Algebra strand
- **Chinese Taipei** - 4. Exponent and logarithm; 5. The basic concept of trigonometric functions, pgs. 33-34
- **England** - Number and Algebra
- **Finland** - MAB3 Mathematical Models 1; MAB4 Mathematical analysis; MAB6 Mathematical Models II
- **Hong Kong** - Number and Algebra Dimension
- **India** - Sets and Function, Grade 11
- **Ireland** – Leaving Certficate, Functions and Calculus
- **Japan** - Math I course; Math II course
- **Korea** - Strand D Functions
- **Singapore** - Topic 1 Numbers and Algebra
- Program for International Student Assessment (PISA), (2006) - Change and Relationships Overarching Idea
- Trends in International Mathematics and Science Study (TIMSS), (2007) - Algebra
- International Baccalaureate, Mathematics Standard Level, (2006) - Functions and Equations, pgs. 4-5
- EdExcel, General Certificate of Secondary Education, Mathematics, (2009) - Number and Algebra

Illustrative Alignment with State and Other Standards

- **California** - State Standards - Algebra II
- **Florida** - State Standards – Algebra
- **Georgia** - State Standards – Mathematics 3, Algebra
- **Massachusetts** - State Standards - Patterns, Relations and Algebra
- **Minnesota** - State Standards - Algebra Strand

Evidence for Individual Math Standards

7. Modeling

National Reports

- NAEP *Math Framework 2009* - Algebra Strand (p. 30-31 description, standards follow)
- AMATYC, *Crossroads* - Standard C-4: Function
- NCTM, *Focal Points* - Algebra Focal Points
- NCTM Principles and Standards - Algebra Standard

College Readiness

- ACT *College Readiness Standards* - Expressions, Equations & Inequalities
- *Advanced Placement Calculus*, Calculus Course Descriptions - Calculus Prerequisite (p.6)
- Conley, D.T. (2008). *Knowledge and Skills for University Success* - Algebra Strand (p32-34)
- *College Board Standards for College Success*: Mathematics and Statistics. College Board, (2006) - Algebra II (p.vii)
- *Ready or Not: Creating a High School Diploma That Counts*. American Diploma Project, (2004) - Algebra Strand

Illustrative International Benchmarks

- **Alberta** - General Outcomes - Patterns and Relations Strand
- **China** - Numbers and Algebra Strand
- **England** - Number and Algebra
- **Finland** - MAB3 Mathematical Models 1; MAB6 Mathematical Models II
- **India** - Mathematical Modeling
- **Singapore** - Topic 1 Numbers and Algebra
- Program for International Student Assessment (PISA), (2006) - Change and Relationships Overarching Idea (p. 86-89)
- Trends in International Mathematics and Science Study (TIMSS), (2007) - Algebra
- EdExcel, General Certificate of Secondary Education, Mathematics, (2009) - Number and Algebra

Illustrative Alignment with State and Other Standards

- **California** - State Standards - Algebra I
- **Florida** - State Standards - Algebra
- **Georgia** - State Standards - Mathematics 3, Algebra
- **Massachusetts** - State Standards - Patterns, Relations and Algebra
- **Minnesota** - State Standards - Algebra Strand

8. Shape

National Reports

- *NAEP Math Framework 2009* – Geometry Strand (p. 17-19 description, standards follow. Strand called "Geometry and Measurement" in grade 12)
- AMATYC, *Crossroads* - Standard C-3: Geometry
- NCTM, *Focal Points* - Geometry and Measurement Focal Points
- NCTM *Principles and Standards* - Geometry Standard

Appendix B2: Draft Standards in ELA and Mathematics

Evidence for Individual Math Standards

College Readiness

- ACT *College Readiness Standards* - Properties of Plane Figures; Measurement
- *Advanced Placement Calculus,* Calculus Course Descriptions - Calculus Prerequisite (p.6)
- Conley, D.T. (2008). *Knowledge and Skills for University Success* - Geometry (p.34-35)
- *College Board Standards for College Success:* Mathematics and Statistics. College Board, (2006) - Geometry Standards (p. vi)
- *Ready or Not: Creating a High School Diploma That Counts.* American Diploma Project, (2004) - Geometry Strand

Illustrative International Benchmarks

- **Alberta** - General Outcomes - Shape and Space Strand
- **Belgium** - 4 Geometry
- **China** - Mathematics 2; Space and Figures Strand
- **Chinese Taipei** – 6. Characters and application of trigonometric (sic), pg. 34; 2. Straight line and plane of space; 4. Conic section, pgs. 35-36
- **England** - Geometry and Measures Strand
- **Finland** - MAB2 Geometry
- **Hong Kong** - Measures, Shape and Space Dimension
- **India** - Geometry Unit
- **Ireland** - Geometry
- **Japan** - Math II Course; Math A Course
- **Korea** - Strand C Geometry
- **Singapore** - Topic 2 Geometry and Measurement (starting on page 7)
- Program for International Student Assessment (PISA), (2006) - Space and Shape Overarching Idea (p.83-86)
- Trends in International Mathematics and Science Study (TIMSS), (2007) - Geometry
- International Baccalaureate, Mathematics Standard Level, (2006) - Prior Knowledge (Geometry), pgs. 3
- EdExcel, General Certificate of Secondary Education, Mathematics, (2009) - Shape, space and measures

Illustrative Alignment with State and Other Standards

- **California** - State Standards – Geometry
- **Florida** - State Standards – Geometry
- **Georgia** - State Standards -Mathematics 2, Geometry
- **Massachusetts** - State Standards - Geometry
- **Minnesota** - State Standards - Geometry and Measurement Strand

9. Coordinates

National Reports

- *NAEP Math Framework 2009* – Geometry Strand (p. 17-19 description, standards follow. Strand called "Geometry and Measurement" in grade 12)
- AMATYC, *Crossroads* - Standard C-3: Geometry
- NCTM, *Focal Points* - Geometry and Measurement Focal Points
- NCTM *Principles and Standards* - Geometry Standard

Evidence for Individual Math Standards

College Readiness

- ACT *College Readiness Standards* - Graphical Representations
- *Advanced Placement Calculus,* Calculus Course Descriptions - Calculus Prerequisite (p.6)
- Conley, D.T. (2008). *Knowledge and Skills for University Success* - Geometry (p.34-35)
- College Board Standards for College Success: Mathematics and Statistics. College Board, (2006) - Algebra I Standards (p.v); Algebra II Standards (p.vii)
- Ready or Not: Creating a High School Diploma That Counts. American Diploma Project, (2004) - Geometry Strand

Illustrative International Benchmarks

- **Alberta** - General Outcomes - Shape and Space Strand
- **Belgium** - 4 Geometry
- **China** - Mathematics 2; Space and Figures Strand
- **Chinese Taipei** – First Year, 1. Numbers and Coordinate system, pgs. 31-32; Second Year, 1. Vector, pg. 35
- **England** - Geometry and Measures Strand ; Number and Algebra
- **Finland** - MAB2 Geometry
- **Hong Kong** - Measures, Shape and Space Dimension
- **India** - Geometry and Mensuration Units
- **Ireland** - Coordinate Geometry
- **Japan** – Math II Course; Math B Course
- **Korea** - Strand C Geometry
- **Singapore** - Topic 2 Geometry and Measurement
- Program for International Student Assessment (PISA), (2006) - Space and Shape Overarching Idea; Change and Relationships Overarching Idea
- Trends in International Mathematics and Science Study (TIMSS), (2007) - Algebra; Geometry
- International Baccalaureate, Mathematics Standard Level, (2006) - Prior Knowledge (Number and Algebra, and Geometry), pgs. 2-3
- EdExcel, General Certificate of Secondary Education, Mathematics, (2009) - Number and Algebra; Geometry

Illustrative Alignment with State and Other Standards

- **California** - State Standards - Algebra I; Geometry
- **Florida** - State Standards – Algebra
- **Georgia** - State Standards - Geometry
- **Massachusetts** - State Standards - Geometry
- **Minnesota** - State Standards - Geometry and Measurement Strand

10. Probability

National Reports

- *NAEP Math Framework 2009* – Data Analysis, Statistics and Probability Strand (p. 24-25 description, standards follow)
- AMATYC, *Crossroads* - Standard C-5: Discrete Mathematics, Standard C-6: Probability and Statistics
- NCTM *Principles and Standards* - Data Analysis & Probability Standard

Appendix B2: Draft Standards in ELA and Mathematics

Evidence for Individual Math Standards

College Readiness

- ACT College Readiness Standards - Probability, Statistics & Data Analysis [link to ACT_CollegeReadinessStandards_p10-17.pdf]
- Conley, D.T. (2008). *Knowledge and Skills for University Success* - Research & Analysis (Social Science Standards), section B (p.64)
- *College Board Standards for College Success*: Mathematics and Statistics. College Board, (2006) - Geometry Standards (p. vi); Algebra II Standards (p. vii)
- *Ready or Not: Creating a High School Diploma That Counts*. American Diploma Project, (2004) - Data Interpretation, Statistics and Probability Strand

Illustrative International Benchmarks

- **Alberta** - General Outcomes - Statistics and Probability Strand
- **Belgium** - 5 Statistics
- **China** - Mathematics 3; Statistics and Probability Strand
- **Chinese Taipei** – Second Year, 5 Permutation and Combination, p. 37
- **England** - Statistics Strand
- **Finland** - MAB5 Statistics and Probability
- **Hong Kong** - Data Handling Dimension
- **India** - Statistics and Probability Unit, Grade 11
- **Ireland** Discrete Mathematics and Counting
- **Japan** - Math A Course; Math C Course
- **Korea** - Strand E Probability and Statistics
- **Singapore** - Topic 3 Statistics and Probability
- Program for International Student Assessment (PISA), (2006) - Uncertainty Overarching Idea
- Trends in International Mathematics and Science Study (TIMSS), (2007) - Data and Chance
- International Baccalaureate, Mathematics Standard Level, (2006) - Statistics and Probability, pgs. 6-8
- EdExcel, General Certificate of Secondary Education, Mathematics, (2009) - Handling Data

Illustrative Alignment with State and Other Standards

- **California** - State Standards - Algebra II; Probability and Statistics
- **Florida** - State Standards – Probability
- **Georgia** - State Standards – Mathematics 3, Data Analysis and Probability
- **Massachusetts** - State Standards - Data Analysis, Statistics, and Probability
- **Minnesota** - State Standards - Data Analysis & Probability

11. Statistics

National Reports

- NAEP *Math Framework 2009* – Data Analysis, Statistics and Probability Strand (p. 24-25 description, standards follow)
- AMATYC, *Crossroads* - Standard C-6: Probability and Statistics
- NCTM, *Focal Points* - Data Analysis Focal Points
- NCTM Principles and Standards - Data Analysis & Probability Standard

Evidence for Individual Math Standards

College Readiness

- ACT *College Readiness Standards* - Probability, Statistics & Data Analysis
- Conley, D.T. (2008). *Knowledge and Skills for University Success* - Statistics (p.37)
- *College Board Standards for College Success*: Mathematics and Statistics. College Board, (2006) - Middle School Math Standards (p.iii); Algebra I Standards (p.v); Precalculus Standards (p.viii)
- *Ready or Not: Creating a High School Diploma That Counts*. American Diploma Project, (2004) - Data Interpretation, Statistics and Probability Strand

Illustrative International Benchmarks

- **Alberta** - General Outcomes - Statistics and Probability Strand
- **Belgium** - 5 Statistics
- **China** - Mathematics 3; Statistics and Probability Strand
- **Chinese Taipei** – Second Year, 6 Probability and Statistic, pg. 37-38
- **England** - Statistics Strand
- **Finland** - MAB5 Statistics and Probability
- **Hong Kong** - Data Handling Dimension
- **India** - Statistics and Probability Unit, Grade 11
- **Ireland** - Discrete Mathematics and Counting (p.27 and 28)
- **Japan** - Math B Course; Math C Course
- **Korea** - Strand E Probability and Statistics
- **Singapore** - Topic 3 Statistics and Probability
- Program for International Student Assessment (PISA), (2006) - Uncertainty Overarching Idea
- Trends in International Mathematics and Science Study (TIMSS), (2007) - Data and Chance
- International Baccalaureate, Mathematics Standard Level, (2006) - Statistics and Probability, pgs. 6-8
- EdExcel, General Certificate of Secondary Education, Mathematics, (2009) - Handling Data

Illustrative Alignment with State and Other Standards

- **California** - State Standards - Probability and Statistics
- **Florida** - State Standards – Statistics
- **Georgia** - State Standards - Mathematics 3, Data Analysis and Probability
- **Massachusetts** - State Standards - Data Analysis, Statistics, and Probability
- **Minnesota** - State Standards - Data Analysis & Probability

International Benchmarking and the Common Core

The Common Core State Standards (CCSS) are designed to be **college- and career-ready** and **internationally benchmarked**. To that end, the development process included the review and consideration of many sources, including research studies, existing standards from the U.S and abroad, and the professional judgment of teachers, content area experts, and college faculty. This paper will briefly describe how international benchmarking was used to develop the CCSS.

What documents were used to ensure that the CCSS were internationally benchmarked?

To ensure that the standards prepare students to be globally competitive, the development team used a number of sources, including: the frameworks for PISA and TIMSS; the International Baccalaureate syllabi; the American Institutes for Research report , *Informing Grades 1-6 Mathematics Standards Development: What Can Be Learned From High-Performing Hong Kong, Korea, and Singapore* and; the A+ Composite found in *A Coherent Curriculum: The Case for Mathematics* by Bill Schmidt, Richard Houang, and Leland Cogan.

In addition, the development team looked to the standards of a number of individual countries and provinces to inform the content, structure and language of the CCSS. In *mathematics*, twelve set of standards were selected to help guide the writing of the standards: Belgium, Canada [Alberta], China, Chinese Taipei, England, Finland, Hong Kong, India, Ireland, Japan, Korea, and Singapore.[i] In *English language arts*, the writing team looked closely at ten sets of standards from Australia (New South Wales and Victoria), Canada (Alberta, British Columbia, and Ontario), England, Finland, Hong Kong, Ireland, and Singapore.[ii]

How were the international benchmarks used to inform the development of the CCSS?

The goal of the international benchmarking in the common core state standards development process was to ensure that the CCSS are as rigorous as comparable standards in the high-performing and other countries. However, the use of international benchmarks as evidence is no easy feat; it is not simply a matter of identifying the "best" source and copying it, or of aggregating all viable sources to find some set of shared expectations. Rather, international benchmarks were used to guide critical decisions in the following areas:

- *Whether particular content should be included:* One of the principal ways international standards were used in this development process was as a guide when making tough decisions about whether content should be included or excluded.
- *When content should be introduced and how that content should progress*: The progression of topics in the international mathematics standards helped the development team make decisions about when to introduce topics in the CCSS as well as when to stop focusing on them.
- *Ensuring focus and coherence*: Standards from other countries tend to be very focused, including only what is absolutely necessary.

- *Organizing and formatting the standards*: Certain organizational aspects or characteristics of international standards that promoted clarity and ease of reading and use served as a model for the CCSS.
- *Determining emphasis on particular topics in standards*: Where emphasis on particular topics was found repeatedly in international standard, this was instructive in determining their importance for inclusion in the CCSS.

* * * * *

When the final version of the K-12 Common Core State Standards is released, it will be accompanied by a discussion of the evidence that was used in their development. In the meantime, the evidence from the September 2009 draft of the College and Career Ready Standards is available: The URL for the ELA document is http://www.corestandards.org/Files/ELAEvidence.pdf, and the URL for the mathematics document is http://www.corestandards.org/Files/MathEvidence.pdf.

[i] Eight of these were high-performers on either TIMSS, PISA or both: Belgium, Canada [Alberta], Chinese Taipei, Finland, Hong Kong, Japan, Korea, and Singapore. England and Ireland, which have uneven performances on international assessments, were included because of their cultural links to the United States. China and India were included because of their growing global competitiveness.

[ii] Differences in language have a greater impact on the teaching and learning of language arts than of mathematics, so the teams looked primarily at English-speaking countries. All were high-performers on PISA except Singapore, which did not participate, and England, which as in mathematics was selected partly for its cultural links to the United States.

Appendix B3: Georgia Letter of Intent

May 24, 2010

Dear Mr. Secretary:

As you know, Georgia is fully committed to current efforts on the Common Core Standards. Georgia became an early signatory to the Common Core State Standards Initiative (CCSSI) coordinated by the National Governors Association and the Council of Chief State School Officers and was one of six states invited to provide feedback on Common Core Standards development. Georgia was also an early participant in the American Diploma Project, a national initiative sponsored by Achieve and NGA to raise high school standards, strengthen assessments and curriculum, and align expectations with the demands of college and careers. In line with requirements of the Race to the Top application, we also have a plan in place to adopt Common Core Standards by July 2010.

We look forward to playing a leadership role in the area of Common Assessments, just as we did and continue to do in the area of Common Core Standards. We will participate, as part of a consortium, in the upcoming Race to the Top assessment competition that will fund the development of common, summative assessments tied to common K-12 standards.

A standard, common assessment program across states is vital to the success of the CCSSI. There are currently two major consortia, the Smarter Balance Consortium and the Partnership for Assessment of Readiness for College and Career, and Georgia is a member of both, but our hope is that there will be comparability for exams given in states that are in either consortium. Both consortia represent a critical mass of states willing to work together to create and adopt a common battery of assessments. By pooling resources and developing new assessments to address the common K-12 standards, a large consortium of States will be in a much stronger position than any single State to produce significantly better assessments and to measure student achievement growth in a comparable way at a lower cost.

Our students must be prepared not only to compete with students in neighboring states but also with students across the globe. Common Core Standards and assessments tied to those standards are vitally important to keeping the United States competitive in the years to come. We wholeheartedly support this state led process and commit to provide leadership and direction as it moves forward.

Sincerely,

Sonny Perdue

Governor, State of Georgia

Kathy Cox

State Superintendent, State of Georgia

Designing Common State Assessment Systems
April 2010

Earlier this month, the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO) released draft Common Core State Standards, the result of a state-led collaborative process to develop common standards in English-language arts and mathematics. **The nation's governors and chief state school officers believe these new standards offer an unprecedented opportunity for states to work together to dramatically improve the quality, cost-effectiveness, and comparability of state assessments.** Adoption of common standards and assessments remains a state decision. During their annual Winter Meeting, governors expressed a strong preference for having only one or two summative assessments that could be administered in all states adopting the Common Core.

In addition, the U.S. Department of Education has announced a Race to the Top Assessment Program that will make up to $350 million available for consortia of states to develop a "next generation" of higher-quality assessments. The upgrade is necessary. Not only are definitions of proficiency inconsistent from state to state, but also today's tests are not always well-aligned with standards and tend to be focused on low-level multiple-choice questions that cannot measure the full breadth and depth of learning the Common Core State Standards expect. Moreover, current tests were not designed to provide a rich variety of timely information useful to decision-makers at all levels, including classroom teachers.

States have an historic opportunity to use Race to the Top funds to create next-generation assessment systems that can better fulfill the many purposes we have for assessment, providing rich summative data that can inform decision-making while also informing and inspiring high-quality instruction in classrooms. The next generation of state assessments can make the Common Core State Standards concrete and meaningful to educators, students, and parents and provide a critical vehicle for ensuring that all students master essential knowledge and skills.

Recognizing that opportunity, CCSSO and the NGA Center convened in February for a series of conversations with leaders of the six overlapping state consortia that already had formed to seek Race to the Top funds. Participants explored key priorities driving each consortium and identified areas of agreement that would provide a basis for common action. Those conversations yielded important agreements that will greatly facilitate collaboration to improve the quality, cost-effectiveness, and comparability of state assessments. Leaders of the consortia:

- embraced a common vision for assessment;
- developed a list of shared priorities for leveraging Race to the Top funds to design next-generation assessment systems;
- merged their efforts considerably to reduce the number of consortia moving forward; and
- agreed to participate in a joint NGA-CCSSO project to ensure comparability of summative assessment results across consortia and to reduce costs by collaborating on other activities.

A Common Vision

Participants reached a strong consensus on a powerful vision for next-generation assessments, based on the following overarching principles:

1. *Assessments should be fully aligned with the new Common Core State Standards and measure the full breadth and depth of knowledge and skills described in those standards.*

2. *Assessments should produce a range of sophisticated data necessary to support decision-making at all levels, including indicators as to whether students are ready or "on track" to be ready for college and careers; measures of student growth over time in addition to annual performance against standards; and information on how students perform compared with their peers internationally.*

3. *States must create coherent assessment systems comprised of multiple integrated components, including a variety of formative assessments that inform, support, and improve classroom instruction, rather than continuing to rely on one annual test to accomplish too many purposes.*

Shared Priorities

Moving beyond that broad vision, participants also agreed on a more detailed set of "shared priorities" for the design and development of next-generation assessment systems, including the following:

- Leverage cross-state collaboration to ensure comparability of summative assessment results and to promote cost-efficiency by exploiting economies of scale for research, development, and administration.

- Employ a robust mix of test questions and performance assessments* necessary to measure the full breadth and depth of the Common Core State Standards. Although decisions about item types should be based on an analysis of how best to measure the standards, new summative assessments will likely need to incorporate a larger proportion of more sophisticated multiple-choice questions, constructed-response (or "fill-in-the-space") questions, on-demand performance tasks, and—to the extent feasible—classroom-based performance assessments.

- Aggressively pursue technology-based solutions for more efficient delivery and scoring of state assessments and to report test results more rapidly, clearly, and in various formats that are useful both for accountability and for improving classroom instruction.

- Employ "universal design principles," strategies for developing new assessments in ways that allow the widest possible range of students to participate fully from outset, along with appropriate accommodations to ensure maximum participation of students with special educational needs.

* Performance assessments are ways to measure students' knowledge and skills that go beyond asking them to answer multiple-choice or fill-in-the-space questions. Typically, students are asked to complete a hands-on task that can take 40 minutes or can be completed over several class periods. For example, students might be asked to research and write a magazine article or to conduct and explain the results of a scientific experiment.

- Support and involve classroom teachers in efforts to improve assessment at all levels by:
    - Providing teachers support materials and tools (curriculum frameworks, syllabi, banks of curriculum-embedded performance tasks) which help teachers to become "assessment literate"; and
    - Offering teachers opportunities to participate in the development and implementation of new state assessments, including the design of constructed-response items and performance tasks for summative assessments.
- Ensure that the design process works for states rather than against them. States should own the processes and products of assessment development. Consortia should negotiate streamlined peer review of state assessment programs by the federal government so that peer reviews are conducted at the *consortium level* rather than for each individual state.

Similarities and Differences between the Consortia

Based on the consensus reached on the vision and priorities, the original six consortia agreed to substantially merge their efforts, resulting in only two major assessment consortia moving forward. Although the two consortia share a similar set of long-term priorities for the next generation of state assessment systems, they have chosen to emphasize a different set of priorities over the short term, during which Race to the Top funds will support major investments in research and development. (The appendix includes detailed descriptions provided by leaders of each consortium and its design plans as of March 2010.)

The **SMARTER BALANCED** consortium plans to move very aggressively toward full implementation of online testing using "computer-adaptive" software that selects new test questions based on each student's own in-test performance and provides immediate results to teachers. This approach allows for a very precise understanding of where students are in relation to grade level expectations. In addition to summative tests, the consortium will develop computer-adaptive mid-year "benchmark" tests and formative assessments that can be administered throughout the year to guide instruction. The consortium plans to seek additional funds in addition to a Race to the Top grant so that it can meet these ambitious goals. Finally, SMARTER BALANCED plans to emphasize teacher involvement in all aspects of assessment design and implementation, from creating and selecting test questions to scoring students' responses on performance tasks, and to invest heavily in other professional development activities so teachers become more adept at applying a range of assessment strategies in their own classrooms.

Recognizing the fiscal costs of research and development plus ongoing administration, the **Partnership for Assessment of Readiness for College and Career** has chosen to adopt a prudent set of short-term design goals. The Partnership will focus primarily on developing a set of high-quality summative assessments, including grades 3-8 tests and end-of-course high school tests, which can provide rich information on students' annual progress toward meeting evidence-based benchmarks for college- and career-readiness. The intent is to ensure high-quality data that can be used for a range of planning and accountability purposes. For example, several leaders of the Partnership have a particular interest in using the results to generate student growth measures that can be used to evaluate teacher and principal effectiveness. To help teachers and others better

understand and plan for the assessments, the Partnership will release a significant proportion of test items and interpretive information every year, and it will develop model curriculum frameworks and course syllabi that illustrate specific instructional options.

Like the SMARTER BALANCED consortium, the Partnership plans to develop a bank of classroom-based performance tasks, the results of which eventually could be incorporated into summative scores, and it intends to move to computer-based testing by 2016. However, the Partnership currently does not plan to invest in computer-adaptive software, extensive teacher development activities, or mid-year benchmark and formative assessments (though its system architecture will allow states to add such components later).

Moving Forward: Ensuring Comparability in Summative Assessments

CCSSO and the NGA Center will lead a joint effort to enable test scores to be compared across the summative assessments being created by the two consortia. Governors and chief state school officers view this as a top-priority goal and consider the effort to be the natural successor to the state-led effort to develop Common Core State Standards. High-quality assessments make standards concrete and meaningful to educators, students, and parents and provide a critical vehicle for ensuring that all students master important knowledge and skills. The assessment work will engage any consortium and all states that adopt the Common Core State Standards.

In the April 6th notice for applications, the U.S. Department of Education announced two competitions. A Comprehensive Assessment System grant would be for grades 3-8 and at a designated point in high school, and would be used for instructional improvement and accountability. They anticipate funding 1-2 consortia at approximately $160 million each, with the requirement that at least 15 states be in a consortium. An additional $30 million will fund a second grant for High School Course Assessments, which would be used to create more consistent levels of rigor in high school courses. In advance of submitting their assessment proposals to the U.S. Department of Education on June 23rd, CCSSO and the NGA Center will ask all consortia to sign a memorandum of understanding that commits them to participating in the effort to compare scores across assessments.

The NGA Center and CCSSO will engage testing experts who can help participants understand the many possible methods for promoting comparability, as well as the tradeoffs among different strategies. Certain approaches, such as embedding a set of common questions across the tests, would enable results to be compared among schools and districts across most, if not all, of the nation, something that never before has been possible in the United States. For example, even if West Virginia and Florida joined separate assessment consortia, it would be possible to say "Byrd Elementary School's 85 in West Virginia is higher than Hurston Elementary School's 80 in Florida." Other approaches would require a smaller up-front investment but would not produce reliably comparable scores at the school level or district level.

In addition to ensuring a level of comparability across summative assessments, the effort will encourage consortia to explore other ways they can pool their efforts and leverage greater economies of scale. Additional cost savings might come from cross-state collaboration to develop curriculum-embedded tasks and materials based on the Common Core State Standards, or ways to evaluate and meet states' differing technological infrastructure needs.

The full power of the Common Core State Standards will be realized when states align them to new, high-quality assessments that are internationally benchmarked and build toward college and career readiness. However, the discussion about developing common state assessments is

relatively new and lacks agreement on the one best design. While a single testing consortium would allow states and families to compare achievement at the student level, a capability that is lost with multiple consortia, there are philosophical and practical differences across states that make a single consortium difficult to create at this time. The overarching goal is to create next-generation assessment systems that are more comparable across the nation and more cost-efficient than ever before.

Appendix: Detailed Descriptions Provided by Assessment Consortia

The following descriptions were provided by leaders of the two assessment consortia.

The SMARTER BALANCED Consortium

Overarching Vision and Goals

The "Smarter Balanced Assessment Consortium" was formed from a merger of three consortia that emerged in January 2010 in response to the Race to the Top competition: the Balanced Assessment, MOSAIC, and SMARTER Consortiums, comprising a total of 45 states.

The Consortium's priorities for a new generation assessment system are rooted in a concern for the valid, reliable, and fair assessment of the deep disciplinary understanding and higher-order thinking skills that are increasingly demanded by a knowledge-based economy. These priorities are also rooted in a belief that assessment must support ongoing improvements in instruction and learning, and must be useful for all members of the educational enterprise: students, parents, teachers, school administrators, members of the public, and policymakers.

The Consortium recognizes the need for a system of formative and summative assessments, organized around the Common Core State Standards, that support high-quality learning and the demands of accountability, and that balance concerns for innovative assessment with the need for a fiscally sustainable system that is feasible to implement. The efforts of the Consortium will be organized to accomplish these goals.

The Consortium is committed to the development of a system that is state-led and will provide:

- **Common summative tests in English language arts and mathematics** that assess student progress and mastery of core concepts and critical transferable skills using a range of formats: selected-response and constructed-response items, and performance tasks, designed together to assess the full range of standards.

- **Formative assessment tools and supports** that are shaped around curriculum guidance which includes learning progressions, and that link evidence of student competencies to the summative system.

- Focused **professional development** around curriculum and lesson development, as well as scoring and examination of student work

- **Reporting systems** that provide first-hand evidence of student performances, as well as aggregated scores by dimensions of learning, student characteristics, classrooms, schools, and districts.

- A **governance structure** that ensures a strong voice for state administrators, policy makers, school practitioners, and technical advisors to ensure an optimum balance of assessment quality, efficiency, costs, and time.

Design Principles

As described below, the Consortium members have agreed to a set of principles that are consistent with those used by educational systems of high-achieving nations and states. These include the following:

1) **Assessments are grounded in a thoughtfully integrated learning system** of standards, curriculum, assessment, instruction, and teacher development. Teachers and other instructional experts are involved in the process of developing formative and summative assessments grounded in the learning standards. These guide professional learning about curriculum, teaching, and assessment. Instructional supports are provided to enable thoughtful teaching. Thus, assessments are provided to schools as part of a well-aligned system that guides and supports a coherent approach to students' and teachers' learning.

2) **Assessments include evidence of actual student performance** on challenging tasks that evaluate standards of 21st Century learning. The assessments will be strategically used to evaluate a broad array of skills and competencies and inform progress toward and acquisition of readiness for higher education and multiple work domains. They emphasize deep knowledge of core concepts within and across the disciplines, problem solving, analysis, synthesis, and critical thinking.

3) **Teachers are integrally involved in the design, development and scoring of assessment items and tasks.** Teachers will participate in the alignment and unpacking of the Common Core State Standards and the identification of the standards in the local curriculum. The Consortium will involve teachers in formative and summative assessment development. It will support moderation of scoring processes to ensure consistency, to enable teachers to deeply understand the standards, and to develop stronger curriculum, instruction, and classroom assessment. Assessment literate teachers 1) who have gotten "inside" the Common Core State Standards, 2) who have taught to the standards, 3) who have learned how to appropriately measure the standards, and 4) who have learned strategies to intervene if students have not measured the standards, will be teachers whose students are learning. Teachers' roles include the construction and review of items/tasks, the definition of scoring guides, selection of student work exemplars, and scoring.

4) **Technology is designed to support assessment and learning systems.** Technology is used to enhance these assessments in a number of ways by: delivering the assessments; enabling adaptive technologies to better measure student abilities across the full spectrum of student performance and evaluate growth in learning; supporting online simulation tasks that test higher-order abilities, allowing students to search for information or manipulate variables, and tracking information about the students' problem-solving processes; and, in some cases, scoring the results or delivering the responses to trained scorers / teachers to access from an electronic platform. Such a platform can support training and calibration of scorers and moderation of scores, as well as the efficient aggregation of results in ways that support reporting and research about the responses.

5) Assessments are structured to continuously **improve teaching and learning**.
Assessment, *as*, *of*, and *for* learning, is designed to develop understanding of what learning standards are, what high-quality work looks like, and what is needed for student learning. It is also designed to foster instruction that supports transferable knowledge and skills. These outcomes are enabled by several features of the assessment system:

- The use of school-based, curriculum-embedded assessments provides teachers with models of good curriculum and assessment practice, enhances curriculum equity within and across schools, and allows teachers to see and evaluate student learning in ways that can feed back into instructional and curriculum decisions.

- Close examination of student work and moderated teacher scoring are sources of ongoing professional development that improve teaching.

- Developing both on-demand and curriculum-embedded assessments around learning progressions allows teachers to see where students are on multiple dimensions of learning and to strategically support their progress.

Anticipated Uses of the Assessment System

The Consortium will develop a common summative assessment that will provide comparable results across all of the participating states. This comparability will be achieved by applying psychometrically sound scaling and equating procedures to items and a modest number of performance tasks of limited scope (e.g. no more than a few days to complete) that will be used in common across consortium states. Consortium states will use commonly determined performance standards that are internationally benchmarked.

In addition, some states will work on pushing the envelope with respect to more ambitious performance assessments – which may be used in common by one or more sub-consortia of states – and, in the same way, others will undertake more ambitious work with respect to computer-adaptive testing and simulations. This design allows the Consortium to create, at one time, a new summative assessment used by a large number of states within the five-year horizon of the federal grant, and to create even more leading-edge assessment components used by sub-consortia of states who decide to offer augmented assessments. Common use of these augmented assessments across subsets of states would result in comparable results across the states, without disrupting the existence of a leaner, common summative assessment across all the states in the Consortium.

Current understandings about the nature of the assessment items, tasks, and strategies are noted below:

Objective Machine-Scored Items

- Movement toward more analytic types of selected-response and constructed-response items that are easily scored, including computer simulations.

Open-Ended Constructed Response

Artificial intelligence (AI) scored items.

- Work to establish efficient means of developing items and reliable scoring processes for complex responses scored by computer.

- Build and maintain the confidence teachers have in the system by incorporating a systematic read-behind by teachers.

Human scored constructed response

- Develop training and moderated scoring processes for teacher scoring of items that cannot be scored by AI and for additional scoring of AI items.

- A strategic mix of teacher and machine scoring should be created to take advantage of efficiencies and reduce burden, while also ensuring teacher participation and learning.

Curriculum-Embedded Performance Assessments

- The common summative assessment would incorporate performance events of modest scope (1-5 days) to evaluate the standards more fully.

- Some states will form a workgroup to go further with rich performance tasks that can make advances in performance assessments on behalf of the Consortium.

- These more ambitious performance assessments could be included for individual state accountability systems (and for comparisons across a subset of states, if desired) until a greater proportion of states has capacity for implementation.

Advanced Computer-Based Simulations

- Some states will form a workgroup to make advances in computer based simulations on behalf of the Consortium.

- These simulations could be included in individual state accountability systems until a greater proportion of states has capacity for implementation.

The Partnership for Assessment of Readiness for College and Career

In January 2010, twenty-eight states signed an agreement to participate in the Common Assessment Partnership and seventeen states signed with the Florida-led Common Assessment Consortium.[†] Since then, many leaders and assessment experts from these states have engaged in work, facilitated by Achieve, to develop a shared vision and set of design principles for a multi-state assessment system. During this period, leading states in both consortia—Florida, Massachusetts and Louisiana—worked to align the visions of the two consortia. This document represents their collective vision and a summary of current agreements and understandings.

The Race to the Top Assessment Competition presents states with an unprecedented opportunity to move from the state-led development of common standards in mathematics and English language arts to a common measurement for student performance and growth. The Common Core State Standards will require students to demonstrate knowledge and skills in deep and meaningful ways, as well as to reason, synthesize, think critically, and solve problems. A compelling vision for common assessments demands fully measuring the depth and breadth of the concepts and skills represented in the Common Core State Standards. However, states recognize the tension between their desire for innovative, forward-looking assessments and the realities of limited resources available to them for ongoing test administration. States in this partnership have agreed to strike a balance between pushing ahead towards next-generation assessment systems and acknowledging the design and fiscal tradeoffs, including the ability to sustain these assessments over the long term.

The state leaders recognize that trying to project costs more than five years in the future is filled with many uncertainties, such as the potential cost savings from technologies that have not yet been invented. Therefore, these state leaders have agreed that they will be adamant about researching and designing an affordable and practical system without sacrificing innovative assessments that can drive instruction. Partnership states will bring forth the best intellectual resources to tackle this challenge and develop solutions that will allow states to maximize the value of innovative assessment features while minimizing cost and turnaround time for results.

In the near term, the partnership expects that the substantial costs for developing the assessment system outlined below will be paid for by the Race to the Top assessment grant award. However, the partnership members recognize that the costs of implementing and sustaining an innovative assessment system could require more resources than many states are currently budgeting for assessment, even with new technological developments. The states are committed to building a sustainable system and it is their hope that the federal government will continue to provide funding to help support the ongoing administration costs for innovative assessment systems.

Purposes and Uses

The initial state members have identified the following major purposes and uses for the assessment system results.

- The primary purpose is to measure and document students' **college and career readiness** at the end of high school and to measure students' progress toward this target throughout

[†] The combined list of states: Alabama, Arizona, Arkansas, California, Delaware, District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, and Wisconsin.

the rest of the system. Students meeting the college- and career-readiness standards will be eligible to be placed into credit-bearing, rather than remedial, courses in all public 2- and 4-year postsecondary institutions in all 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.

Cross-Cutting Design Considerations

While there are many design issues unique to either the grades 3-8 or high school assessment systems, the following issues cut across the design of all of the assessments in the system.

- ***Comprehensive and Coherent System.*** A comprehensive assessment system design will be used to ensure coherence among summative, interim, and formative assessments, even if the partnership focuses development efforts on the summative measures.
- ***Operational Use.*** The partnership's summative assessment system will be available for the first operational use by the spring of 2014.
- ***Migration to Computer-Based Testing.*** The initial operational assessment will be available in both computer and paper formats, but by the spring of 2016, paper formats will be available for specific testing accommodations only.
- ***Common Performance Levels.*** All partnership states will use common performance level descriptors and standard-setting processes, and will cut scores to define common achievement levels.
- ***Student-Level Growth.*** The summative assessments will provide valid inferences regarding individual student growth and progress toward college and career readiness. Partnership members are committed to exploring the use of a common student growth model in order to facilitate comparisons of growth across member states.
- ***International Benchmarking.*** The assessments will be designed to ensure that students are being held to internationally competitive expectations via:
  - tight alignment with the internationally-benchmarked Common Core State Standards;
  - benchmarking the actual assessments against assessments from high-performing countries; and
  - pursuing empirically-based international comparisons at target grade levels.
- ***Item Types.*** The partnership will ensure that the assessments measure the depth and breadth of the Common Core State Standards and signal effective instruction. In consideration of cost, scoring time, and test administration time, the partnership will pursue innovations in item types that require higher-order thinking skills but that can be

scored via computer. There is also recognition that a target of college and career readiness requires expectations for complex performances. As such, assessments will include open-response tasks.

- ***Testing Conditions.*** The partnership is committed to using the most uniform test administration policies and practices possible to enable meaningful comparisons of results across states.
- ***Special Populations.*** The assessments will be as inclusive as possible, particularly for students with disabilities and English language learners. The partnership will also require—to the fullest extent possible—the use of uniform accommodation policies and practices in all member states.
- ***Robust Writing Assessments.*** The partnership will create robust (i.e., not just single prompts) direct writing assessments for every grade 3-11. All states will administer these at key grades and will be free to administer them (or allow Local Education Authorities to do so) at the other grades.
- ***Classroom-Embedded Performance Tasks.*** The partnership will develop classroom-embedded performance tasks, starting first with writing as described above. Partnership states will participate in a pilot administration of these embedded tasks. The results from these tasks will not be included in summative judgments until the validity of such judgments can be assured.
- ***Released Items and Item Analysis.*** The partnership will release operational items along with relevant student performance information (e.g., released-item reports).
- ***Model Instructional Supports.*** The partnership will develop model curriculum frameworks in grades K-8 and model course syllabi for high school that illustrate specific instructional options for educators targeting the Common Core State Standards, the common assessments, and embedded performance tasks.
- ***Assessments in Grades K-2.*** The partnership is interested in collaborating on some form of a K-2 assessment system.

Assessment Design Considerations

Grades 3-8. The assessment system for grades 3-8 will provide students, parents, and educators with clear signals about whether students are on track to acquire the knowledge and skills foundational for success in and after high school. These assessments will include the following unique design considerations, as well as the cross-cutting features described above:

- Reading and mathematics assessments will be administered at the end of each school year in all grades.
- Writing will be assessed separately at specific, as yet to be determined, grades.

High School. The major focus of the high school assessment system will be to determine whether students can demonstrate the knowledge and skills necessary for success in college and careers.

- The partnership states are committed to involving higher education in the design of the assessments and associated performance standards.
- The partnership is committed to developing at least two approaches to high school assessment.

  - **End-of-course exams** will be developed for a limited set of mathematics and English courses.
  - **End-of-domain assessments** will be created to assess students at key points during their high school experience.
- The partnership is committed to designing these two approaches such that college/career ready determinations from each have comparable meanings.

Governance

The partnership will employ a multi-level governance and management structure designed to guide the partnership through the submission of the proposal.

- The **Governing Board** will be comprised of a representative group of leaders from partnership states and will be responsible for major policy decisions such as the overall direction of the partnership, major purposes and uses of the assessment system, fiscal authority, and rules for state engagement.
- The **Design Group** will include officials from 8-12 states with expertise in assessment design and development and will work with an advisory group of national and international experts to create the design for a next-generation assessment system.
- The **Review Team** will be comprised of state representatives from all partnership states and will be responsible for providing input to and feedback on the assessment system design.
- Achieve will serve as the coordinating **management partner** with the National Center for the Improvement of Educational Assessment (Center for Assessment) serving as a technical support partner.

Appendix B5: PARCC Letter

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: Georgia	
Authorized State Signature: Kathy Cox	
Name: Kathy Cox	Date: 5/11/2010
Title: State Superintendent of Schools	

Smarter Balance Assessment Consortium
Document of Commitment

Please sign and return by April 15, 2010 to
Tony Alpert, Director of Assessment, Oregon Department of Education

Email as PDF attachment to: Tony.Alpert@ode.state.or.us , or
Fax: 503-378-5156

The Document of Commitment may be returned after April 15, allowing a state to begin to participate as a voting Member State from the date of commitment. Signature on this document indicates support of decisions made prior to Consortia receipt of this document.

Complete descriptions of the responsibilities and time commitments of various levels of consortium governance are provided in the Governance Structure document. This initial governance structure refers to the *proposal process only.* Governance structure will be revised after proposal acceptance to reflect long-term needs during the grant implementation period.

State Name: Georgia

Please indicate which governance levels are of interest to your state at this time.

- ☒ **Member State** – May also sign as member state for other consortia, may participate in setting general direction, may vote on selected issues.
- ☐ **Governing State** – May only sign with one consortia per competition category; has an active role in policy decisions, is committed to using the assessment system or program developed.

- ☐ Please consider my state for representation on the **steering committee**. (10 hr/wk)
- ☒ Please consider my state for representation on the **proposal design team** (20 hr/wk)
- ☐ We are interested in participating in the following **work groups** (variable hr/wk)
  - ☐ Item Specs/Quality Control, Writing/Constructed Response Scoring/Validity
  - ☐ Psychometrics, Reliability, Standard Setting, Reporting
  - ☐ Universal Design, Test Administration, Accommodations, Special Populations
  - ☐ Technical Specifications/Requirements
  - ☐ Communications and Documentation
  - ☐ External Validation, Research and Innovations
  - ☐ Professional Development and Capacity Building (IT and Human)
  - ☐ Formative and Benchmark Assessment
  - ☐ Performance-Based, Curriculum-Embedded Assessments
  - ☐ High School and Higher Education

Kathy Cox — Chief State School Officer Signature

4/28/2010 — Date

Appendix C1: Data Quality Campaign Report Press Release

Georgia Receives High Marks for Educational Data System

MEDIA CONTACT:
Matt Cardoza, GaDOE Communications Office, (404) 651-7358

December 2, 2009 -- Georgia is one of only 11 states that have the 10 Essential Elements of developing and using longitudinal data systems to improve student achievement, according to a national report released last week. A recent U.S. Chamber of Commerce report, Leaders and Laggards, also showed Georgia ahead of other states in the use of data to impact classroom instruction.

"These two reports verify that Georgia is on the right track to getting a longitudinal data system that will help our educators across the state make sound policy decisions for the benefit of the students," said State Superintendent of Schools Kathy Cox. "Accurate data that identifies a problem is critical to tackling an issue head on. Without good data we would just be engaged in random acts of school improvement."

Data Quality Campaign (DQC) Report
The 2009 DQC report showed Georgia is one of only 11 states to have all 10 Essential Elements. DQC's annual survey results track individual states' progress towards implementing the 10 Essential Elements, as well as the policy implications of creating longitudinal systems. The DQC provides a forum for states to learn from each other as they continue to improve their systems.

U.S. Chamber of Commerce Report
In its second Leaders and Laggards report measuring Education Innovation, Georgia was one of only five states to receive more than one "A" in the eight categories. The "A's" were given for Georgia's quality data system and the ability to remove ineffective teachers. The report highlighted Georgia's data system and how the public reporting of college remediation data is factored into the accountability system.

"Our existing data collection and reporting infrastructure is not perfect yet but we are on our way," said Superintendent Cox. "As businesses have effectively used data to boost profits, educators are using data to boost student achievement."

The federal government has also recognized Georgia's commitment to a robust educational data system. In April, Georgia was one of twenty-seven states awarded a Longitudinal Data System (LDS) grant, and one of only three states to receive the maximum amount: $8.9 million.

The DQC report on Georgia is at http://www.dataqualitycampaign.org/survey/states/GA

Appendix C2: Georgia Performance on America COMPETES Act

GEORGIA DEPARTMENT OF EDUCATION

12 Elements	Current Status
1. A unique student identifier that does not permit a student to be individually identified by users of the system.	Current practice for institutional collections is to use various identifiers for students depending on institution type. The K-12 unique identifier in public schools is the Georgia Testing Identifier (GTID). The Georgia Pre-kindergarten program is moving to the GTID as well. Postsecondary institutions use SSNs as well as supplementary institution-level IDs and secondary identifiers.
2. Student-level enrollment, demographic and program participation information.	Existing institutional data collections contain this information for purposes of identifying student groups and for program funding and participation measurement purposes.
3. Student-level information about the points at which students exit, transfer in, transfer out, drop out or complete P-16 education programs.	Institutional collections in K-12 record business transitions of students within public schools and school systems. Matches across systems depend on student identifier matches, as do measures of transition across institutions.
4. The capacity to communicate with higher education data systems.	Existing institutional data is collected in isolation of collections at different institutional levels, with a few exceptions.
5. State data audit system assessing data quality, validity, and reliability	Existing education data collections contain data edits and format requirements that address the issues related to data quality for the business reasons prompting the collection. The use of data elements within a longitudinal data system, however, requires a different level of data quality, since the elements collected for business purposes may be used to create derived or calculated elements to be housed within the system.
6. Yearly test records of individual students with respect to assessments under section 1111 (b) of the ESEA of 1965.	Information on all students tested is collected by the GDOE and integration of this data for summative and for formative uses will be part of the existing IES Grant for Georgia's Chronicle information system, the K-12 portion of the planned GLDS.
7. Information on students not tested, by grade and subject.	This deficiency will be remedied in the collection for FY 2009-10, as GADOE is collecting this information for the first time.
8. A teacher identifier system with the ability to match teachers to students	The GADOE course record captures all courses taken by public school students for the year of the collection. Teachers' identifiers are collected as part of each course record, although the course record identifies these linkages only for students in grades 6-12. Links for elementary school teachers and students are not now available.
9. Student-level transcript information, including information on courses completed and grades earned.	GADOE collects courses and grades for middle school and high school students in Georgia public schools in a given academic year. GSFC collects complete transcript data, grade weighting practices and other school rules associated with the grade assignment process for public and private schools.
10. Student-level college readiness test scores.	SAT and ACT Scores are both collected by the Georgia Department of Education and by the Georgia Student Finance Commission.

GEORGIA DEPARTMENT OF EDUCATION

11. Data that provide information regarding the extent to which students transition successfully from secondary school to postsecondary education including whether students enroll in remedial coursework.	Institutional level data is currently collected on students who make the transition to college and their success in the first year of college by USG. GOSA has for the first time this year published data describing the postsecondary enrollment patterns of Georgia public high school graduates using data from the National Student Clearinghouse.
12. Data that provide other information determined necessary to address alignment and adequate preparation for postsecondary success.	Previous language has discussed the planned analysis of course-taking and grade patterns in high school, linking of standardized test scores to student records and the use of that information to improve student instruction.

Appendix D1: Alternative Certification Rules

Effective May 15, 2009

505-2-.04 ADVANCED DEGREE ALTERNATIVE CERTIFICATE

(1) At the request of an employing school system, the Advanced Degree Alternative Certificate (ADAC) may be issued to individuals accepted into the Advanced Degree Alternative Certificate (ADAC) Program.

(2) To be eligible for the Advanced Degree Alternative Certificate (ADAC), the applicant must:

(a) hold a master's degree or higher with a major in a content area for which the state issues Clear Renewable teacher certification OR the Juris Doctor degree (only eligible to teach Political Science 6-12) from a PSC-accepted accredited institution;

(b) be accepted into an approved Advanced Degree Alternative Certificate (ADAC) Program; and

(c) have the Advanced Degree Alternative Certificate (ADAC) requested by the employing school system.

(d) be assigned a fully-certified mentor/coach teacher in the same general core content subject area in which the educator is teaching for a minimum of one academic year.

(3) An Advanced Degree Alternative Certificate may be issued only in a teaching field approved for the specific ADAC Program path in which the applicant is accepted.

(4) The Advanced Degree Alternative Certificate (ADAC) Program path is three years in length and the ADAC Certificate is issued in three one-year validity periods. At the beginning of the first one-year validity period, the ADAC Program provider must develop a three-year individual professional development plan that is based on the Georgia Framework for Teaching and completion of all requirements for the Clear Renewable certificate, to include the GACE Basic Skills Assessment, the appropriate GACE content assessment(s), the GACE Professional Pedagogy Assessment, and all Special Georgia Requirements.

(5) At the request of the employing school system, the initial one-year validity period may be extended for two additional one-year validity periods provided the applicant is enrolled in an ADAC Program in the same ADAC field of certification and making satisfactory progress toward Clear Renewable certification. To request each one-year additional validity period, the application packet from the employing school system must include: the application form; the employer assurance form; and written verification of progress by the ADAC Program provider, as specified in the individual professional development plan.

(6) At any time during the validity period of the ADAC Certificate, if the educator is dropped from the ADAC Program, the provider must notify the PSC and the certificate will be invalidated. If employment is terminated during the validity period of the ADAC Certificate, the employing school system must notify both the PSC and the ADAC Program provider and the certificate will be invalidated.

(7) An individual holding an ADAC Certificate may transfer that certificate to another employing school system only if the gaining system has, or is serviced by, an approved ADAC Program which enrolls the individual into its program in the same certificate field. The gaining school system must request the continuation of the ADAC Certificate.

(8) An individual holding an ADAC Certificate for less than three years may, at the request of an employing school system, switch out of the Advanced Degree Alternative Certificate Program (ADAC) route into another certificate route under the following conditions:

(a) An individual holding a valid ADAC Certificate who has been accepted into another state-approved preparation program may: exit from the ADAC Program path upon application from the employing school system; convert the ADAC Certificate to the appropriate new certificate; complete all new program requirements and be recommended by the approved provider; and complete the appropriate Georgia Content Assessment(s). In this situation, the validity period of the new certificate would be determined by PSC based on the number of years of validity of the new certificate minus the time served on the ADAC Certificate. The total amount of validity time of the combined certificates will not exceed the number of years of the new certificate.

(9) In order to convert from the ADAC Certificate to the Clear Renewable certificate, the educator must:

(a) complete the ADAC Program path, which includes Special Georgia Requirements, the GACE Basic Skills Assessment, the appropriate GACE content assessment(s), the GACE Professional Pedagogy Assessment, and be recommended by the ADAC Program provider; and

(b) submit an application packet for conversion that must include: an application form completed by the educator; a recommendation form, unless submitted by the provide; any appropriate transcripts, assessment score reports or documents not already on file in the PSC; and, submission of the Employer Assurance form by the employing school system, or, if not employed at the time of conversion, a $20.00 fee.

Authority O.C.G.A. 20-2-200

Appendix D1: Alternative Certification Rules

505-2-.05 INTERN CERTIFICATE

(1) At the request of an employing school system, the Intern certificate may be issued to individuals accepted into a Georgia Teacher Academy for Preparation and Pedagogy (GaTAPP).

(2) To be eligible for an Intern certificate, the applicant must:

(a) hold a bachelor's degree or higher from a PSC-accepted accredited institution; and

(b) have passed the appropriate Basic Skills Assessment(s). Details of the assessment(s) and allowable exemption methods are posted on the PSC web site at www.gapsc.com; and

(c) have evidence of content knowledge:

1. for the core academic content fields, have demonstrated content knowledge through either an academic degree major, or academic content course work assessment of transcript(s) (21 semester hour minimum for 6-12 certificates), or the appropriate content assessment(s); or

2. for Special Education Intern certificates, have verified the special education academic content concentrations through an academic degree major, or academic content course work assessment of transcript(s) (21 semester hour minimum for 6-12 cognitive level and 15 academic content semester hours for P-5 and 4-8 cognitive levels), or the appropriate content assessment(s). The appropriate Special Education assessment must then be completed before the end of the TAPP program; or

3. for Middle Grades Intern certificates, have verified content knowledge in the area(s) of concentration through an academic degree major, or academic content course work assessment of transcript(s) (15 semester hours), or the appropriate content assessment(s) ; or

4. for all other teaching fields, must have a major in a related field or academic content course work assessment of transcript(s) (21 semester hour minimum for 6-12 certificates), or the appropriate content assessment(s); and

(d) be accepted into a Georgia Teacher Academy for Preparation and Pedagogy; and

(e) have the Intern certificate requested by the employing school system; and

(f) be assigned a fully-certified mentor/coach teacher in the same general subject area in which the educator is teaching for a minimum of one academic year.

(3) An Intern certificate may be issued only in a teaching field approved for the specific TAPP program in which the applicant is accepted.

(4) Intern certificates will be issued for a 3-year validity period and cannot be renewed or extended. During the first year of the validity period, holders of Intern certificates who verified core academic content eligibility through an academic degree major or academic content course work assessment of transcript(s) must take the appropriate content assessment(s) for the certificate field. If the assessment is not passed at this point, the assessment feedback may be used for individual diagnostic purposes.

(5) All requirements for the Clear Renewable certificate, to include the appropriate content assessment(s) and Special Georgia Requirements, may be completed anytime within the 3-year

validity period, with a 1-year minimum, but must be completed within a maximum of a 3-year validity period.

(6) At any time during the validity period of the Intern certificate, if the educator is dropped from the TAPP program, the provider must notify the PSC and the certificate must be invalidated. If employment is terminated during the validity period of the Intern certificate, the employing school system must notify the PSC and the certificate must be invalidated.

(7) An individual holding an Intern certificate may transfer that certificate to another employing school system only if that system has, or is serviced by, an approved TAPP program which enrolls the individual into its program in the same certificate field. The gaining school system must request the continuation of the intern certificate.

(8) An individual holding an Intern certificate may, at the request of an employing school system, switch out of the Teacher Alternative Preparation Program (TAPP) route into another certificate route under the following conditions:

(a) An individual holding a valid Intern Certificate who has been accepted into another state-approved teacher preparation program may: upon application from the employing school system exit from the TAPP Program; convert the Intern Certificate to the appropriate new certificate; complete all Special Georgia Requirements; complete all program requirements and be recommended by the approved provider; and complete the appropriate Georgia Content Assessment(s). In this situation, the validity period of the new certificate would be determined by PSC based on the number of years of the new certificate minus the years served on the Intern certificate. The total amount of validity time of the combined certificates will not exceed the number of years of the new certificate.

(9) Up to two Middle Grades Areas of Concentration may be issued on an Intern certificate.

(10) In order to convert from the Intern certificate to the Clear Renewable certificate, the educator must:

(a) complete the TAPP program anytime within the 3-year validity period, with a 1-year minimum, which includes Special Georgia Requirements and the appropriate content assessment(s), and be recommended by the TAPP provider; and

(b) submit an application packet for conversion that must include: an application form completed by the educator; a recommendation form, unless submitted separately by the provider; any appropriate transcripts, assessment score reports or documents not already on file in the PSC; and, submission of the Employer Assurance form by employing school system or, if not employed at the time of conversion, a $20.00 fee.

(11) Information on the Georgia Teacher Academy for Preparation and Pedagogy (GaTAPP) may be found on the PSC web site at www.gapsc.com.

Authority O.C.G.A. 20-2-200

Appendix D1: Alternative Certification Rules

Effective May 15, 2009

505-2-.27 CORE ACADEMIC CERTIFICATE

(1) At the request of an employing school system, the Core Academic Certificate may be issued to individuals accepted into the Core Academic Path for middle grades (4-8) or secondary grades (6-12) only. Core academic subjects are defined in Section 4.01 of the Georgia Implementation Guidelines for Title II-A and are found on the PSC website at http://www.gapsc.com/EducatorPreparation/NoChildLeftBehind/Admin/Files/ImpPolicy.pdf.

(2) To be eligible for the Core Academic Certificate, the applicant must:

(a) hold a bachelor's degree or higher from a PSC-accepted accredited institution with an overall GPA of 2.5 or higher on a 4.0 scale. If the bachelor's degree is the highest degree and the GPA is less than 2.5 and the date on which the degree was awarded is 10 years or more prior to the date of application for certification, then the GPA requirement does not apply; and

(b) pass the appropriate Basic Skills Assessments. Details of the assessments and allowable exemption methods are posted on the PSC web site at www.gapsc.com; and

(c) pass the appropriate Content Assessment(s) for the core academic subject field to be taught; and

(d) satisfy the Standards of Conduct; and

(e) be accepted into an approved Core Academic Path for the appropriate middle grades (4-8) or secondary grades (6-12) subject field; and

(f) be employed by a Georgia school system to teach the core academic subject that correlates to the grade level being taught and the core academic program in which the applicant is accepted; and

(g) be assigned a fully-certified mentor/coach teacher in the same general core content subject area in which the educator is teaching for a minimum of one academic year.

(3) The Core Academic Certificate is issued for a 3-year validity period and cannot be renewed or extended.

(4) At any time during the validity period of the Core Academic certificate, if the educator is dropped from the Core Academic program, the provider must notify the PSC and the certificate must be invalidated. If employment is terminated during the validity period of the certificate, the employing school system must notify the PSC and the certificate must be invalidated.

(5) An individual holding an Core Academic certificate may transfer that certificate to another employing school system only if that system has, or is serviced by, an approved Core Academic program which enrolls the individual into its program in the same certificate field. The gaining school system must request the continuation of the certificate.

(6) An individual holding an Core Academic Certificate for less than three years may, at the request of an employing school system, switch out of the Core Academic Preparation Program route into another certificate route under the following conditions:

(a) An individual holding a valid Core Academic Certificate who has been accepted into another state-approved teacher preparation program may: exit from the Core Academic Preparation path;

upon application from the employing school system convert the Core Academic Certificate to the appropriate new certificate; complete all Special Georgia certification requirements; complete all requirements for the new program and be recommended by the approved provider; and complete the appropriate Georgia Content Assessment(s). The validity period of the new certificate would be determined by the PSC based on the number of years of validity of the new certificate minus the time served on the Core Academic Certificate. The total amount of validity time of the combined certificates will not exceed the number of years of the new certificate.

(7) Requirements for converting a Core Academic Certificate to a Clear Renewable certificate include the following:

(a) satisfy assessments required at time of establishing eligibility for the certificate, including the Basic Skills Assessment and the appropriate Content Assessment(s) for the core academic subject field to be taught; and

(b) pass the PSC-approved professional pedagogy assessment. Details on this assessment may be found on the PSC web site at www.gapsc.com; and

(c) complete all Special Georgia Requirements (Rule 505-2-.20); and

(d) complete an approved Core Academic Path anytime within the 3-year validity period, with a 1-year minimum, and be recommended to the PSC by the approved program provider for a Clear Renewable Certificate; and

(e) submit an application packet for conversion that must include: an application form completed by the educator; the recommendation form, unless submitted separately by the provider; any appropriate official transcripts, assessment score reports or documents not already on file in the PSC; and, submission of the Employer Assurance form by employing school system or, if not employed at the time of conversion, a $20.00 fee.

Authority O.C.G.A. 20-2-200

Appendix D1: Alternative Certification Rules

Effective May 15, 2009

505-2-.28 CLINICAL PRACTICE CERTIFICATE

(1) The Clinical Practice certificate may be issued at the request of an employing Georgia school system to individuals who:

(a) held a Georgia Permit, with the exception of JROTC, for a minimum of 5 years; or

(b) completed an education program and is eligible for student teaching with the college or university, but elected to accept a degree without student teaching; and

(c) holds a bachelor's degree or higher from a PSC-accepted accredited institution; and

(d) has passed the appropriate Basic Skills Assessment(s). Details of the assessment(s) and allowable exemption methods are posted on the PSC web site at www.gapsc.com; and

(e) has demonstrated content knowledge through either an academic degree major, or academic content course work assessment of transcript(s) (21 semester hour minimum for 6-12 certificates), or the appropriate content assessment(s). For those fields in which there are no established content assessments, the minimum content knowledge is to be verified by the employing school system using locally established criteria; and

(f) meets the PSC Standards of Conduct; and

(g) is employed by a Georgia school system to teach the subject(s) that correlate to the Permit field or a certification field that is related to the major completed in the education program ; and

(h) is accepted into an approved Georgia Clinical Practice Path; and

(i) is assigned a fully-certified school-based mentor/coach for a minimum of one academic year.

(2) The Clinical Practice Certificate is issued for a 3-year validity period and cannot be renewed or extended.

(3) At any time during the validity period of the Clinical Practice certificate, if the educator is dropped from the Clinical Practice program, the provider must notify the PSC and the certificate must be invalidated. If employment is terminated during the validity period of the certificate, the employing school system must notify the PSC and the certificate must be invalidated.

(4) An individual holding a Clinical Practice certificate may transfer that certificate to another employing school system only if that system has, or is serviced by, an approved Clinical Practice program which enrolls the individual into its program in the same certificate field. The gaining school system must request the continuation of the certificate.

(5) Educator requirements for converting a Clinical Practice Certificate to a Clear Renewable certificate include the following:

(a) completed the Georgia Basic Skills Assessment. Details of the assessments and allowable exemption methods are posted on the PSC web site at www.gapsc.com; and

(b) passed the appropriate Content Assessment(s). For those fields in which there is no established content assessment, the minimum content knowledge is to be verified by the employing school system using locally established criteria; and

(c) completed all Special Georgia Requirements for certification (Rule 505-2-.20); and

(d) completed an approved Clinical Practice Path anytime within the 3-year validity period, with a 1-year minimum, and is recommended to the PSC by the approved program provider for a Clear Renewable Certificate; and

(e) submits an application packet for conversion that must include: an application form completed by the educator; the recommendation form, unless submitted separately by the provider; any appropriate official transcripts, assessment score reports or documents not already on file in the PSC; and, submission of the Employer Assurance form by employing school system or, if not employed at the time of conversion, a $20.00 fee.

Authority O.C.G.A. 20-2-200

Appendix D1: Alternative Certification Rules

Effective May 15, 2009

505-2-.29 ONE YEAR SUPERVISED PRACTICUM CERTIFICATE

(1) At the request of an employing school system, the One Year Supervised Practicum Certificate may be issued to individuals accepted into the One Year Supervised Practicum Path.

(2) To be eligible for the One Year Supervised Practicum Certificate, the applicant must:

(a) hold a bachelor's degree or higher from a PSC-accepted accredited institution. The degree major must be in or closely related to the requested field of certification, as defined by the Commission; and

(b) pass the appropriate Basic Skills Assessments. Details of the assessments and allowable exemption methods are posted on the PSC web site at www.gapsc.com; and

(c) pass the appropriate Content Assessment(s) for the One Year Supervised Practicum Certificate field to be taught; and

(d) pass the PSC-approved professional pedagogy assessment. Details on this assessment may be found on the PSC web site at www.gapsc.com; and

(e) satisfy the Standards of Conduct; and

(e) be accepted into an approved One Year Supervised Practicum Path; and

(f) be employed by a Georgia school system to teach in the subject field of the One Year Supervised Practicum Certificate.

(g) be assigned a fully-certified school-based mentor/coach for a minimum of one academic year.

(3) The One Year Supervised Practicum Certificate is issued for a 3-year validity period and cannot be renewed or extended.

(4) At any time during the validity period of the One Year Supervised Practicum certificate, if the educator is dropped from the One Year Supervised Practicum program path, the provider must notify the PSC and the certificate must be invalidated. If employment is terminated during the validity period of the certificate, the employing school system must notify the PSC and the certificate must be invalidated.

(5) An individual holding a One Year Supervised Practicum certificate may transfer that certificate to another employing school system only if that system has, or is serviced by, an approved One Year Supervised Practicum program which enrolls the individual into its program in the same certificate field. The gaining school system must request the continuation of the certificate.

(6) An individual holding a One Year Supervised Practicum Certificate for less than three years may, at the request of an employing school system, switch out of the One Year Supervised Practicum Program path into another certificate path under the following conditions:

(a) An individual holding a valid One Year Supervised Practicum Certificate who has been accepted into another state-approved teacher preparation program may: exit from the One Year

Supervised Practicum Program; upon application from the employing school system convert the One Year Supervised Practicum Certificate to the appropriate new certificate; complete all Special Georgia certification requirements; complete all requirements for the new program and be recommended by the approved provider; and complete the appropriate Georgia Content Assessment(s). The validity period of the new certificate would be determined by the PSC based on the number of years of validity of the new certificate minus the time served on the One Year Supervised Practicum Certificate. The total amount of validity time of the combined certificates will not exceed the number of years of the new certificate.

(7) Requirements for converting a One Year Supervised Practicum Certificate to a Clear Renewable certificate include the following:

(a) satisfy the related degree major required at the time of establishing eligibility for the certificate; and

(b) satisfy the assessments required at time of establishing eligibility for the certificate, including the Basic Skills Assessment, the appropriate Content Assessment(s) for the One Year Supervised Practicum Certificate field, and the PSC-approved professional pedagogy assessment; and

(c) complete all Special Georgia Requirements for certification (Rule 505-2-.20); and

(d) complete an approved One Year Supervised Practicum Plan anytime within the 3-year validity period, with a 1-year minimum, and be recommended to the PSC by the approved program provider for a Clear Renewable Certificate; and

(e) submit an application packet for conversion that must include: an application form completed by the educator; the recommendation form, unless submitted separately by the provider; any appropriate official transcripts, assessment score reports or documents not already on file in the PSC; and, submission of the Employer Assurance form by employing school system or, if not employed at the time of conversion, a $20.00 fee.

Authority O.C.G.A. 20-2-200

Appendix D1: Alternative Certification Rules

Effective May 15, 2009

505-2-.40 ADJUNCT LICENSE

(1) The Adjunct License is a type of certification document for the individual with (a) specific knowledge, skills, and experience in an engineering, medical, dental, pharmaceutical, veterinarian, legal, accounting, or arts profession, or any other professional position approved by the Georgia Professional Standards Commission (GaPSC); or (b) instructional experience in a branch of the U.S. military (except for JROTC), or a PSC-accepted accredited college or university; and (c) who is eligible to provide instruction in the **core academic subjects in grades 6-12 only** , as defined in Section 4.01 of Georgia Implementation Guidelines for Title II-A and is found on the PSC website at http://www.gapsc.com/EducatorPreparation/NoChildLeftBehind/Admin/Files/ImpPolicy.pdf.

(2) To be eligible for the Adjunct License:

(a) The applicant must:

1. hold a bachelor's degree or higher in any major from a GaPSC-accepted accredited institution of higher education;

2. verify a minimum of two years occupational experience applicable to the desired field of certification;

3. have passed the appropriate GACE content assessment for the field(s) being taught OR hold the appropriate professional licensure for the profession or field of instructional experience (See list on PSC website at http://www.gapsc.com) ;

4. satisfy the PSC Standards of Conduct; and

5. be assigned a fully-certified mentor/coach teacher in the same general subject area(s) and system(s) in which the licensee is teaching.

(b) The applicant must be employed as an adjunct instructor for no more than a total of 50% of the school day and in no more than one school system. The request for issuance of the Adjunct License in the appropriate teaching field(s) must be submitted electronically to the GaPSC from the employing school system utilizing procedures found on the PSC website at www.gapsc.org.

1. The Adjunct License issued to the licensee will show the teaching field(s) issued by the PSC and the school system in which he/she is authorized to teach. The license is not transferable to any school system that is not designated on the license.

2. It is the responsibility of the employing school system to assure that the licensee is not teaching more than a total of 50% of the school day.

(3) Renewal. The Adjunct License is valid for 1 year and may be renewed by the school system upon meeting the requirements for renewal, as specified by the system.

(4) Salary for Adjunct License holders is determined by the employing school system.

(5) The Adjunct License is not convertible to any other type of GaPSC certificate.

(6) In-field Statement. It is the responsibility of the local school system to assure that Adjunct License holders are assigned only within the subject field(s) associated with the license and that they only teach grades 6-12.

Authority O.C.G.A. 20-2-200

Appendix D1: Alternative Certification Rules

Effective May 15, 2009

505-3-.05 GEORGIA TEACHER ACADEMY FOR PREPARATION AND PEDAGOGY (GaTAPP)

(1) **Purpose.** This rule states specific content standards and requirements for approving initial non-traditional preparation paths designed for the preparation of transition teachers and supplements requirements in 505-3-.01 Requirements And Standards For Approving Professional Education Units And Educator Preparation Programs. The standards and requirements set forth in this rule are intended to guide the development of non-traditional preparation paths that prepare completers for teaching that positively impacts student achievement through research-based pedagogy, and to delineate multiple non-traditional preparation path requirements related to new teacher support and induction programs that may be used by non-traditionally prepared teachers for obtaining Clear Renewable Certification.

(2) **Definition.** The Georgia Teacher Academy for Preparation and Pedagogy (GaTAPP) shall fit the criteria for Georgia's non-traditional preparation options which are defined as those paths, which:

(a) Prepare individuals with a minimum of a bachelor's degree in a content field or a degree that supports the academic content knowledge of the teaching field for which the individual is seeking Clear Renewable Certification, but whose undergraduate or graduate work did not include pedagogical knowledge and skills. The individual must have never held a Clear Renewable teaching certificate. (Leadership and Service Certificates are not considered teaching certificates.);

(b) Feature a flexible timeframe for completion;

(c) Do not lead to a degree or college credit;

(d) Are job embedded allowing candidates to complete non-traditional preparation path requirements while employed as a classroom teacher fulltime or part-time for at least two classes per day in a regionally accredited school or school system;

(e) Require that candidates are supported by a Candidate Support Team comprised of a school-based administrator, a school-based mentor or teaching coach, a supervisor employed by the non-traditional preparation path provider, and a content specialist if either the mentor or supervisor are not also content specialist in the candidate's teaching field;

(f) Require an induction component that includes coaching and supervision for a minimum of one academic year and meets the standards and requirements delineated in PSC Education Preparation Rule 505-3-.86 Coaching Endorsement Program;

(g) Provide curriculum, performance-based instruction, and assessment focused on the pedagogical knowledge and skills necessary for the candidate to teach his/her validated academic content knowledge;

(h) Are individualized based on the needs of each candidate with respect to content knowledge, pedagogical skills, learning modalities, learning styles, interests, and readiness to teach; needs are determined through assessments of candidate performance in the classroom related specifically to path requirements that are based on teaching competencies rather than coursework seat-time; and

(i) Use candidate and non-traditional preparation path performance data to inform decision-making regarding continuous improvement of the non-traditional preparation path.

(3) **Eligible Providers.** Georgia Teacher Academy for Preparation and Pedagogy programs may be proposed by any PSC-approved professional education unit that can verify, through the program approval process, the ability to provide non-traditional preparation paths that comply with the definition of GaTAPP and to provide programs that meet all requirements and standards delineated in this rule. All new requests for approval of a non-traditional preparation path from a PSC-approved professional education unit must indicate the unit's intent to offer the comprehensive GaTAPP to include all paths. Regional Educational Service Agencies (RESA) offering only a PSC-approved One-Year Supervised Practicum path must seek PSC approval to convert to the comprehensive GaTAPP non-traditional preparation (to include all non-traditional preparation paths) within three (3) years of the effective date of this rule (by May 15, 2012). Local Education Agencies (LEA) offering PSC-approved One-Year Supervised Practicum paths may continue to offer only that path if the provider complies with the Pre-Conditions for Professional Education Unit Approval specified by the PSC within one (1) year from the effective date of this rule (by May 15, 2010). PSC-approved professional education units at local education agencies or private schools shall offer approved GaTAPP non-traditional preparation paths only to those candidates employed by that school system or school.

(4) **Non-traditional Preparation Paths.** There are multiple non-traditional preparation paths to Georgia Clear Renewable Certification for individuals who hold a bachelor's degree or higher from an accredited institute, who did not complete teacher education degree programs, and want to transition to the teaching profession. Candidates must be employed as full-time teachers or as part-time teachers who teach at least two classes per day by a local school system or private school for all paths to Clear Renewable Certification. Adjunct Teacher License candidates must be employed only for a half-day. The employing school system and non-traditional preparation path provider (if the provider is an external provider) assesses the candidate's transcripts and the employing school system's needs to determine the appropriate path in which to place the candidate upon entering GaTAPP.

(a) The non-traditional preparation paths equip transition teachers with the skills necessary for initial success in their classrooms. All non-traditional preparation paths require structured supervision and guidance by a team of qualified mentors and coaches, the Candidate Support Team (CST), for a minimum of one academic year. Comprised of a school-based administrator, a school-based mentor/coach, and a non-traditional preparation path provider supervisor, and a content specialist (if the mentor or supervisor is not a content specialist in the candidate's teaching field), the CST assesses the level of knowledge and skills with which a transition teacher performs while completing the assigned path.

(b) The non-traditional common assessment is Charlotte Danielson's rubric in Enhancing Teaching: A Framework for Teaching 2nd edition. Candidates must perform at the Proficient level. The results of that assessment determines the recommendation that the candidate remain in the assigned path or be transferred to another path that provides the support needed for the candidate to meet the dispositions, 24 teaching competencies, and the pedagogical standards delineated in this rule.

(c)Through continuous monitoring and assessment of the candidate's performance in the classroom and through the provision of evidence of their knowledge, skills, and dispositions delineated in the 24 teaching competencies and pedagogical content standards required for successful completion of the non-traditional preparation path, the CST provides recommendations for advancement, retention, or termination of the candidate's participation. GaTAPP teachers shall be eligible for a path-specific certificate that is valid for up to three-years and is not renewable.

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(d) Upon meeting all the required teacher competencies and standards including one academic year of mentor/coaching, candidates are recommended by the CST for Georgia Clear Renewable Certification. Specific admission requirements and/or non-traditional preparation path completion requirements in addition to those listed here are described below for each path.

1. **The Comprehensive Georgia Teacher Academy For Preparation and Pedagogy (GaTAPP)**

(i) **Purpose.** The comprehensive, or full GaTAPP, non-traditional preparation path is recommended for individuals who have demonstrated content knowledge in their teaching fields through path specific requirements and are assigned to a teaching field in that discipline, yet have little or no teaching experience. Based on individual assessments of teaching performance, candidates appropriate for the full GaTAPP have demonstrated gaps in knowledge, skills, and dispositions in content, pedagogy, and/or student learning.

(ii) **Admission Requirements.** Candidates at the bachelor's degree level must:

(I) Hold a bachelor's degree or higher from a PSC-approved accredited college or university;

(II) Pass the GACE Basic Skills Assessment (or qualifying exemption). Candidates with Master's Degrees or higher are exempt from the GACE Basic Skills assessment;

(III) Candidates for Early Childhood Education, Special Education, Middle Grades math, science, reading, Language Arts, and Social Science, and Secondary math, science, all Social Studies areas, Foreign Language, and fine arts (art, music, band and chorus) who are teachers of record must meet the requirements for Highly Qualified teacher:

I. Early Childhood Education and Special Education candidates who are teachers of record must have a passing score on the corresponding GACE Content Assessment;

II. Middle Grades math, science, reading, Language Arts, and Social Science must have a bachelor's degree or higher with a major in a concentration in the assigned teaching field or a transcript assessment confirming successful completion of 15 semester hours in the assigned teaching field or a passing score on the appropriate GACE Content Assessment; if the candidate does not have a major in the assigned teaching field, for instance the candidate is accepted with a major in a related field or having experience that supports the knowledge and skills in the content area, he/she must have a passing score on the appropriate GACE Content Assessment.

III. Secondary math, science, all Social Studies areas, Foreign Language, and Fine Arts (art, music, band and chorus) must have a bachelor's degree or higher with a major in the assigned teaching field or a transcript assessment confirming successful completion of 21 semester hours in the assigned teaching field or a passing score on the appropriate GACE Content Assessment; if the candidate does not have a major in the assigned teaching field, for instance the candidate is accepted with a major in a related field or having experience that supports the knowledge and skills in the content area, he/she must have a passing score on the appropriate GACE Content Assessment.

(iii) **Non-traditional Preparation Path Completion Requirements.** Non-traditional preparation path providers shall require candidates to pass the GACE content assessment in the teaching field for which the Clear Renewable Certification is being sought, meet all of the dispositions, 24 competencies, and pedagogical content standards delineated in this rule, and to complete an Individual Induction Plan (IIP) that includes the aforementioned requirements, the Georgia Special

Requirements, and individual requirements resulting from candidate assessment data. The candidate must complete a minimum of one academic year in a mentoring/coaching non-traditional preparation path provided through the Candidate Support Team.

2. **ADJUNCT TEACHING PATH TO ONE-YEAR LICENSE (J)**

(i) **Purpose.** The Adjunct Teaching Path is designed for candidates with content-specific knowledge and skills such as experienced instructors in the military or institutions of higher education, or business/industry/arts professionals who can provide instruction in secondary education (grades 6-12) teaching fields.

(ii) **Admission Requirements.** PSC-approved GaTAPP providers shall accept candidates who hold at least a bachelor's degree and have passed either a GACE Content assessment or the appropriate professional licensure for the profession or field of instructional experience; and are employed as a teacher for not more than a half day.

(iii) **Path Completion Requirements:** No additional requirements.

3. **ADVANCED DEGREE ALTERNATIVE CERTIFICATION PATH (ADAC)**

(i) **Purpose.** The Advanced Degree Alternative Certification path provides 6-12 pedagogical preparation for individuals who hold advanced degrees in content areas for which the state issues renewable teacher certification or individuals who hold Juris Doctor Degrees. Individuals holding a Juris Doctor degree will be in-field to teach political science or Business Law

(ii) **Admission Requirements.** PSC-approved GaTAPP providers shall accept candidates who hold at least a master's degree, a major in the teaching assignment, and who are employed as a full-time teacher or part-time for at least two classes per day by a local school system or private school.

(iii) **Path Completion Requirements.** All ADAC candidates are required to have one academic year of intensive support through the Candidate Support Team and must meet the 24 competencies, complete an individual induction plan during the three-year ADAC certification period, pass the appropriate GACE content assessment, complete the Georgia Special Requirements 505-3-.01, and pass the GACE professional pedagogy test to convert to clear renewable certification.

4. **CORE ACADEMIC PREPARATION (CA) PATH**

(i) **Purpose.** The Core Academic path is designed for teacher candidates in Secondary 6-12 math, science, all subjects comprising social sciences and Middle Grades 4-8 math, science, English, Social Sciences, Foreign Language, art, band, chorus, and music who have demonstrated content knowledge in their teaching fields and can demonstrate the appropriate depth of pedagogical knowledge and skills necessary for successful teaching.

(ii). **Admission Requirements.** PSC-approved GaTAPP providers shall accept candidates who hold at least a bachelor's degree or higher with a major in the teaching field to which he/she is assigned to teach for a majority of the school day, a 2.5 grade point average, a passing score or qualifying exemption on the GACE Basic Skills Assessment or have a Master's degree or higher, and a passing score on the appropriate GACE Content Assessment; and are employed as a full-time teacher by a local school system.

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(iii) **Path Completion Requirements.** Candidates will have up to three (3) years to complete the following requirements for this path. For a minimum of one (1) academic year candidates must receive intensive support through the Candidate Support Team and must have an Individualized Induction Plan (IIP) which the mentor will use to coach the candidate in the 24 competencies and dispositions delineated in this rule. Candidates must also complete all applicable Georgia Special Requirements and pass the GACE Pedagogy Assessment.

5. **CLINICAL PRACTICE PATH (CP)**

(i) **Purpose.** The Clinical Practice Path is designed for individuals who have successfully completed all coursework associated with an educator preparation program who are eligible for, but did not attempt student teaching, or Georgia PSC Permit holders eligible for renewal in content areas for which the state issues clear renewable teacher certification or Technical Specialist certification.

(ii) **Admission Requirements.** PSC-approved GaTAPP providers shall accept candidates who:

(I) hold a Permit in the teaching assignment and have successfully renewed the Permit for the second time ensuring five (5) years of successful teaching experience and completion of all Georgia special Requirements; or

(II) successfully completed an education program at a PSC accepted accredited college or university, are eligible for, but did not attempt student teaching; and

(III) are employed as a full-time teacher or part-time teacher for at least two (2) classes by a local school system.

(iii) **Path Completion Requirements.** The teacher must complete an Individual Induction Plan (IIP) during the certification period, pass the GACE Basic Skills Assessment or have a Master's degree or higher, pass the appropriate GACE Content Assessment, and meet all Georgia Special Requirements to convert to Clear Renewable Certification. Clinical Practice Path candidates shall be provided a Candidate Support Team including a provider supervisor, a qualified school-based mentor/coach, and a content specialist if the mentor or supervisor is not a content specialist in the field, and a school-based administrator.

6. **ONE-YEAR SUPERVISED PRACTICUM PATH**

(i) **Purpose.** The One-year Supervised Practicum (OYSP) path is designed to provide pedagogical preparation for individuals seeking clear renewable teacher certification who have demonstrated content knowledge, pedagogical knowledge, and have had experience teaching students in a private school, a college or university, a corporate setting, a military setting, or equivalent experience.

(ii) **Admission Requirements.** PSC-approved GaTAPP providers shall accept candidates who are eligible for a three-year (3) certificate in a teaching field as specified in Chapter 505-2-.06. when prior to employment and admission into the practicum candidates:

(I)Hold at least a bachelor's degree in the teaching field or closely related teaching field;

(II)Have met the GACE Basic Skills requirement either with passing GACE Basic Skills scores, exempting the GACE assessment with satisfactory SAT, ACT or GRE scores, or by having a Master's degree or higher;

(III) Have passed the GACE Professional Pedagogy assessment; and

(IV) Are employed as full-time teachers or part-time for at least two classes per day by the PSC-approved non-traditional preparation path provider (local school system or school) or by a local school system member of a PSC-approved RESA.

(iii) **Path Completion Requirements.** OYSP path candidates shall be provided a Candidate Support Team including a supervisor from the PSC-approved non-traditional preparation path provider, a qualified school-based mentor, a content specialist if not already on the team in one of the members, and a school-based administrator. The provider shall require practicum participants to receive mentoring/coaching for a minimum of one academic year, meet the dispositions requirements, the 24 competencies of the non-traditional preparation path and all requirements specified in rule 505-3-.01 (4.f.), Special Georgia Requirements.

(5) **Eligible Certification Fields and Related Path Requirements.** Non-traditional preparation paths are available only for the teaching fields specified below. Service, leadership, and endorsement certifications are not offered through non-traditional routes.

(a) **Birth through Five Education (ages 0-5) and Early Childhood Education (grades P-5).** To receive approval to offer non-traditional paths to certification in Birth through Five Education or Early Childhood Education the PSC-approved path provider must, in addition to meeting all standards and requirements stated in this rule, meet the standards delineated in the PSC Educator Preparation Rule 505-3-.12 Birth through Five Education or PSC Educator Preparation Rule 505-3-.16 Early Childhood Education. Candidates must pass the GACE Birth through Five Education Content Assessment (005 and 006) or Early Childhood Education Content Assessment (001 and 002) prior to acceptance to the non-traditional preparation path in order to be Highly Qualified.

(b) **Middle Grades Education (grades 4-8).** To receive approval to offer non-traditional paths to certification in Middle Grades Education the PSC-approved path provider must, in addition to meeting all standards and requirements stated in this rule, admit candidates who:

1. Have a bachelor's degree or higher with a major in a concentration in at least one of the following teaching fields: English Language Arts, reading, math, science, or Social Studies or a transcript assessment confirming successful completion of15 semester hours in one of the above-mentioned teaching fields; or

2. Have a major in a related field or experience that supports the knowledge and skills in the content area and a passing score on the appropriate GACE Content Assessment; prior to completion of the preparation path and recommendation for Clear Renewable Certification, all candidates must pass the GACE Content Assessment in the teaching field.

(c) **Secondary Education (grades 6-12).** To receive approval to offer non-traditional paths to certification in the Secondary Education fields of behavioral science, biology, chemistry, earth/space science, economics, English, geography, history, mathematics, physics, political science, science, and speech the PSC-approved path provider must, in addition to meeting all standards and requirements stated in this rule, admit candidates that have a major in the assigned teaching field or successful completion of 21 semester hours in upper level coursework (3rd and 4th year level courses) in the assigned teaching field; if candidates are admitted having a major in a closely related field or having experience that supports the knowledge and skills in the content area, they must have a passing score on the Assessment.

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(d) **P-12 Certification Fields excluding Special Education.** To receive approval to offer non-traditional paths to certification in the fields of Art , Foreign Language, Health Education, Health & Physical Education or Music Education, the PSC-approved path provider must, in addition to meeting all standards and requirements stated in this rule, admit candidates that have a major in the assigned teaching field or successful completion of 21 semester hours in coursework in the assigned teaching field; if candidates are admitted having a major in a closely related field or having experience that supports the knowledge and skills in the content area, they must have a passing score on the appropriate GACE Content Assessment. The teaching fields of Drama and Dance are Permit only because there is no GACE Content Assessment.

(e) **Special Education Fields.** To receive approval to offer non-traditional paths to certification in the Special Education fields listed below the PSC-approved path provider must, in addition to meeting all standards and requirements stated in this rule, describe in the approval application how candidates will meet the special education content standards delineated in the appropriate PSC Preparation Rules.

1. 505-2.-103 Special Education Academic Content Concentrations
2. 505-2-.104 Special Education Adapted Curriculum (P-12)
3. 505-2-.105 Special Education Behavior Disorders (P-12)
4. 505-2-.106 Special Education Deaf Education (P-12)
5. 505-2-.107 Special Education General Curriculum (P-12)
6. 505-2-.108 Early Childhood Special Education General Curriculum (P-5)
7. 505-2-.109 Special Education Learning Disabilities (P-12)
8. 505-2-.110 Special Education Physical and Health Disabilities (P-12)
9. 505-2-.111 Special Education Preschool (Ages 3-5)
10. 505-2-.112 Special Education Visual Impairment (P-12)

(f) **Career and Technical Education Fields (grades 6-12).** To receive approval to offer non-traditional paths to certification in Career and Technical Education fields the PSC-approved path provider must, in addition to meeting all standards and requirements stated in this rule, admit candidates that have a baccalaureate degree with a major in the teaching field, a major in a closely related field, or successful completion of 21 semester hours in coursework related to the certification field sought. Completers must pass the Industry Certification assessment or professional certification assessment to be issued the Technical Specialist Certificate, as specified in PSC Rules 505-2-.39, 505-2-.70, and 505-2-.96.

(6) **Non-traditional Preparation Path Requirements**

(a) PSC-approved providers of non-traditional paths must provide training in coaching for the Candidate Support Team (CST) comprised of a school-based mentor/coach, a supervisor employed

by the non-traditional preparation path provider, and a content specialist. The CST training must include the standards described in PSC Rule 505-3-.86 Coaching Standards.

(b) PSC-approved providers of non-traditional paths must provide for each candidate an Individualized Induction Plan (IIP) that is developed, monitored, and verified by signatures of the Candidate Support Team (CST).

(c) All non-traditional path participants shall be required, by path completion, to demonstrate the following dispositions:

1. The teacher demonstrates an appreciation of the diversity of the students, the staff, and the community and capitalizes on the richness of that diversity;

2. Teacher/student interactions and student/student interactions are friendly, warm, caring, polite, respectful, and developmentally and culturally appropriate;

3. The teacher establishes a culture of learning where students are committed to the value of the subject, accept the teacher's high expectations, and take pride in quality work and conduct;

4. The teacher responds appropriately, respectfully, and successfully to student behavior;

5. The teacher's directions, procedures, and oral and written language are communicated clearly and accurately;

6. The teacher demonstrates flexibility and responsiveness by adjusting lessons, responding to students, and being persistent;

7. The teacher maintains accurate, complete records of student assignments and learning and of non-instructional activities;

8. The teacher frequently and successfully provides instructional information and student progress information to parents and engages families in the school program;

9. The teacher is supportive of and cooperative with colleagues and volunteers and makes substantial contributions to school and district projects;

10. The teacher actively seeks professional development to enhance content and pedagogical skills and actively assists other educators;

11. The teacher proactively serves all students, challenges negative attitudes, and takes a leadership role in high quality decision-making; and

12. The teacher understands and actively participates in the school's School Improvement process.

(d) All non-traditional path participants shall be required, by path completion, to demonstrate the following competencies:

1. Planning and Preparation

(i) The teacher demonstrates solid knowledge of content structure of the discipline, of connections and prerequisite relationships, of content-related pedagogy and of connections with technology;

(ii) The teacher demonstrates a working knowledge of age-group characteristics, of different students' approaches to learning, of students' skills and knowledge levels and language proficiency, and of students' interests and cultural heritage, and knowledge of students' special needs;

(iii) The teacher demonstrates an appreciation of the diversity of the students, the staff, and the community and capitalizes on the richness of that diversity;

(iv) The teacher selects instructional goals that are valuable, sequential, clear, aligned with state and national standards, suitable for diverse students, and balanced among types of learning;

(v) The teacher actively seeks and utilizes varied instructional materials and community resources, including technology, to extend content knowledge, pedagogy, and student learning;

(vi) The teacher's instructional plans are coherent and structured in that learning activities (learning units and lessons), resources, groupings, and time allocations are varied and suitable to the developmental level of the students, to individual students, and to the instructional goals; and

(vii) The teacher utilizes varied assessment methods, including those through technology, that are congruent with the instructional goals for student learning; students' understanding of the criteria and standards; and the teacher designs and utilizes formative results to plan for and differentiate instruction.

2. The Classroom Environment

(i) Teacher/student interactions and student/student interactions are friendly, warm, caring, polite, respectful, and developmentally and culturally appropriate;

(ii) The teacher establishes a culture of learning where students are committed to the value of the subject, accept the teacher's high expectations, and take pride in quality work and conduct;

(iii) The teacher effectively manages instructional groups, transitions, materials, supplies, non-instructional duties, and supervision of volunteers and paraprofessionals;

(iv) The teacher makes standards of conduct clear, is consistently alert to student behavior, and responds appropriately, respectfully, and successfully to student behavior; and

(v) The teacher arranges the classroom and organizes physical space and materials skillfully, resourcefully, and with safety and accessibility components in place.

3. Instruction

(i) The teacher's expectations for student learning and classroom procedures are clearly articulated in directions, and both oral language and written language are communicated clearly and accurately modeling standard grammar;

(ii) The teacher's questions and discussion techniques are of high quality and engage all students;

(iii) The teacher utilizes engaging and varied representations of content, instructional strategies, assessment techniques, activities, assignments, technology, grouping configurations, materials and resources, structure and pacing;

(iv) The teacher develops relevant assessment criteria, monitors student learning, and gives meaningful and timely feedback to students and teaches students to self-assess and monitor their own progress;

(v) The teacher demonstrates flexibility and responsiveness by adjusting lessons, responding to students' needs, and being persistent in their searches for varied approaches for students who have difficulty learning; and

(vi) The teacher accurately assesses lessons' effectiveness and demonstrates an understanding of how to modify subsequent lessons.

4. Professional Responsibilities

(i) The teacher maintains accurate, complete records of student assignments and learning and of non-instructional activities;

(ii) The teacher frequently and successfully provides instructional information and student progress information to parents and engages families in the instructional non-traditional preparation path;

(iii) The teacher is supportive of and cooperative with colleagues, is involved in a culture of professional inquiry, and makes substantial contributions to school and district projects;

(iv) The teacher actively seeks professional development to enhance content, pedagogical skills and dispositions, accepts feedback from colleagues, and actively assists other educators;

(v) The teacher demonstrates integrity and ethical conduct; and

(vi) The teacher proactively serves all students, challenges negative attitudes, takes a leadership role in high quality decision-making, and understands and actively participates in the school's School Improvement process.

(e) The PSC-approved provider shall assure that all non-traditional preparation path participants meet the 24 competencies by path completion, by providing preparation (curriculum, instruction, and assessment) in the following pedagogical content standards:

1. Essential Preparation

(i) The non-traditional preparation path shall prepare candidates who demonstrate knowledge, skills, and dispositions in unpacking state and/or national standards for the purpose of teaching all students in the content field in which the candidate is seeking Clear Renewable Certification;

(ii) The non-traditional preparation path shall prepare candidates who demonstrate the knowledge, skills, and dispositions necessary in developing pre and post assessments that are aligned with state and/or national content standards that clearly demonstrate the students' knowledge and skills as delineated in the state and/or national standards requirements;

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(iii) The non-traditional preparation path shall prepare candidates who demonstrate the knowledge, skills, and dispositions necessary to establish benchmarks for monitoring student progress toward meeting state/national content standards;

2. Evidence

(i) The non-traditional preparation path shall prepare candidates who demonstrate knowledge, skills, and dispositions in planning, implementing, and using multiple assessments to determine the level of student learning based on the academic content standards of the teaching field to include the:

(I) Development of various types of assessments

(II) Development of scoring guides for the assessments

(III) Analysis of student work to assess achievement and gains

(IV) Analysis of assessment data to determine instruction to meet individual student needs

3. Engagement

(i) The non-traditional preparation path shall prepare candidates who demonstrate knowledge, skills, and dispositions of planning, implementing, and assessing classroom instruction engaging all students in active learning to include the:

(I) Establishment of a standards-based classroom

(II) Use of research based exemplary practices

(III) Use of activating strategies

(IV) Use of cognitive strategies

(V) Use of summarizing strategies

(VI) Use of questioning strategies

(VII) Use of Bloom's Taxonomy

(VIII) Use of cooperative learning strategies

(IX) Demonstration of the understanding of relationship between engagement and achievement

(X) Demonstration of the understanding of how to align research-based strategies with Georgia Performance Standards

(XI) Demonstration of the understanding of the role of effective questioning and critical thinking

(XII) Demonstration of the skills to create acquisition and extending/refining lessons based on research-based strategies

(XIII) Demonstration of the understanding of how to use strategies and graphic organizers to increase engagement

(XIV) Demonstration of the understanding of how to write content questions according to Bloom's Taxonomy

(XV) Demonstration of the understanding of how to differentiate instruction by content and by learner

4. Environment

(i) The non-traditional preparation path shall prepare candidates who demonstrate knowledge, skills, and dispositions to develop and implement effective classroom management plans that include the:

(I) Appropriate arrangement of classroom that supports student learning

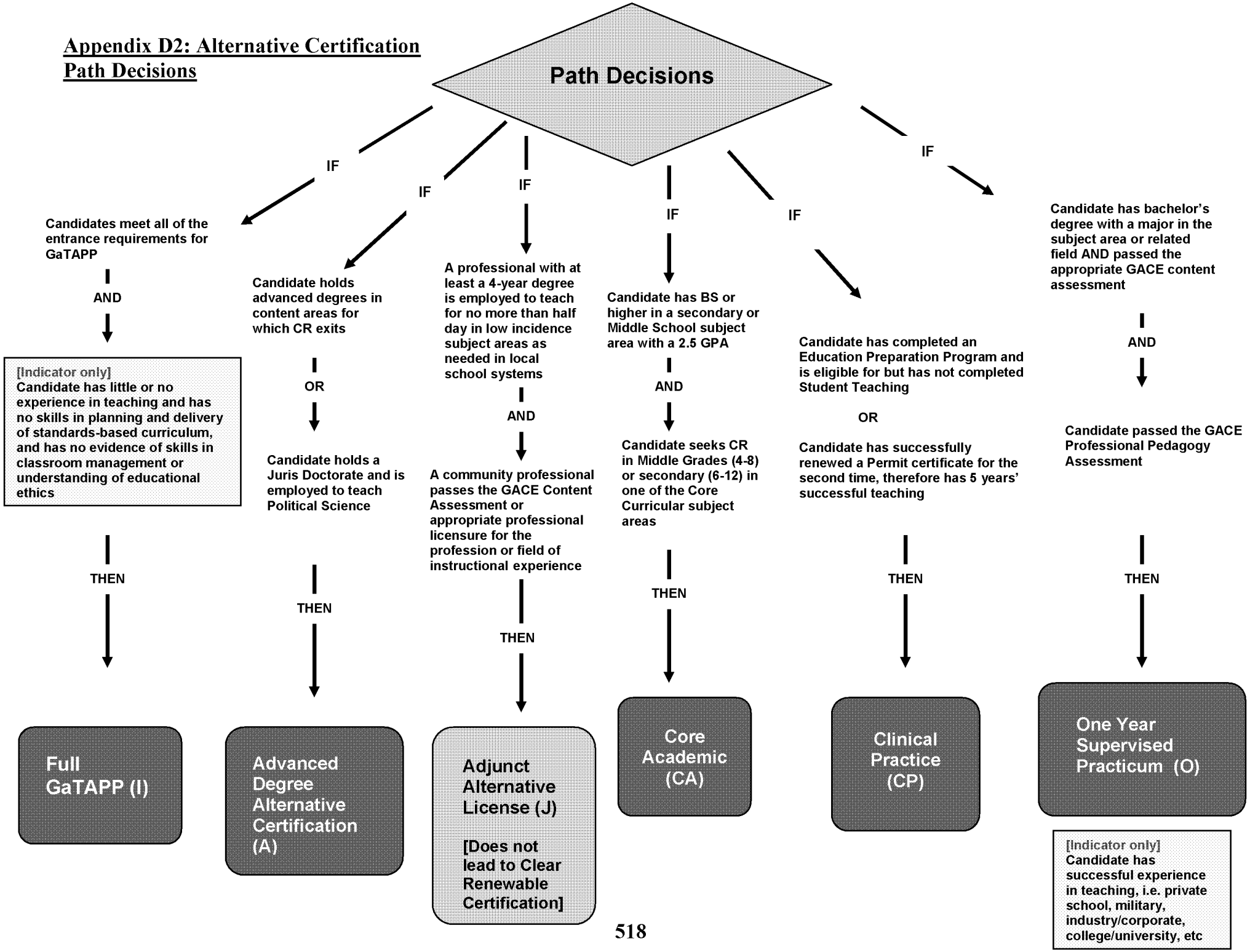
(II) Planning and implementation of strategies that produce a learning environment that provides the best opportunity for student learning

5. Ethics

(i) The non-traditional preparation path shall prepare candidates who demonstrate the knowledge, skills, and dispositions necessary to model ethical practices of the educational profession. (505-6-.01 The Code of Ethics for Educators)

Authority O.C.G.A. 20-2-200

Appendix D2: Alternative Certification Path Decisions



Appendix D2: Alternative Certification Path Decisions

Georgia's Non-Traditional Educator Preparation Multiple Path Program
Georgia Teacher Preparation and Pedagogy (GaTAPP)

"A BILL to enact the 'A Plus Education Reform Act of 2000'; to provide for comprehensive reform of the delivery of education services in this state at the pre-kindergarten, elementary and secondary, and postsecondary level" legislated that Local Education Agencies (LEA) and Regional Educational Service Agencies (RESA) could provide Educator Preparation programs for classroom teachers. One RESA and one school system submitted program proposals for the Georgia Professional Standards Commission (GaPSC) approval in 2000-2001.

GaPSC developed a statewide program with guidelines for implementation and named the program the Georgia Teacher Alternative Preparation Program (GA TAPP) in 2002. Three additional RESAs were approved to offer GaTAPP in the next two years. The One Year Supervised Practicum (OYSP) was a stand-alone program that was developed by the GaPSC in 2004 as a test-out option for teacher candidates that passed the state assessment for professional pedagogy in addition to all other required state assessments. GaPSC developed an Educator Preparation rule for GaTAPP that became effective May 15, 2009. One purpose of the new rule (See the link to the rule below) was to place existing and newly created non-traditional paths to Clear Renewable certification under one umbrella rule GaPSC also removed the term "alternative certification" in the title of the program while maintaining the familiar and respected acronym, GaTAPP. The result is the Georgia Teacher Academy for Preparation and Pedagogy. The OYSP is now one of the paths to teacher Clear Renewable certification under the GaTAPP umbrella rule. Today there is a total of 27 GaPSC approved GaTAPP and/or (OYSP) programs that blanket the state.

Georgia's teachers generally come from one of four primary sources one of which is GaTAPP. By a small margin, traditional college/university teacher preparation programs provided the second largest proportion of new teachers (21.8%) over the GaTAPP program, a close third at 21.4%. In other words, the non-traditional educator preparation paths to Clear Renewable certification are bringing roughly the same number of teachers to the teaching workforce. By definition, the non-traditional educator preparation program is a GaPSC approved certification-only option and cannot lead to college credit or advanced degrees. It is designed to place quality, content rich candidates who receive individualized instruction based on assessed needs while in the classroom with a strong mentor/coaching team.

The GaTAPP programs and the providers offering them are approved as Professional Educational Units and program providers through the same review process that is required for all college/university programs using the *GEORGIA STANDARDS for the Approval of Professional Education Units and Educator Preparation Programs.* The Georgia Standards mirror those of the National Council for Accreditation of Teacher Education (NCATE). At this time, all approved programs are housed in twelve of sixteen Georgia Regional Education Service Agencies (RESA) and five local education agencies (LEA) with one RESA scheduled for GaPSC approval review and one public school system or LEA awaiting final approval. The three remaining RESAs all are approved for the One Year Supervised Practicum (OYSP) and must be approved to offer all of the five non-traditional paths to clear renewable certification (the full GaTAPP) by May 15, 2012.

There are other agencies/organizations interested in seeking approval that will increase the opportunities for career-changers to become certified teachers. There is on-going dialogue with the Georgia Technical Colleges, the Georgia Charter School Association, and the Georgia Independent Schools Association. GaPSC is providing technical assistance to theses agencies. In 2008-2009 1,096 new teachers entered the GaTAPP program with approximately 950 program completers for that same year. The total number of educator certificates in 2008-2009 is 154,693.

There are multiple program paths (See Appendix D3: GaTAPP Requirements for Clear and Renewable Certification by Alternative Pathways) to Georgia Clear Renewable certification (CR) for individuals who hold a bachelor's degree or higher from an accredited institute, who did not complete teacher education degree programs and want to transition to the teaching profession. These program paths equip teacher candidates with the skills necessary for initial success in their classrooms.

Appendix D2: Alternative Certification Path Decisions

All program paths involve structured supervision and coaching by a team of qualified mentors and coaches called the Candidate Support Team (CST). Comprised of a school-based administrator, a school-based mentor/coach, a program provider supervisor, and a content specialist, the CST assesses the level of knowledge and skills with which a teacher candidate enters the program and recommends the appropriate path for the teacher candidate to take in order to meet 24 teaching competencies based on Charlotte Danielson's Enhancing Professional Practice: A Framework for Teaching. Dr. Danielson's work is nationally accepted as a research-based framework for excellent teaching and is the basis for the Georgia Framework for Teaching. The curriculum, instruction, and assessment is under-girded by the literature of, among others, Charlotte Danielson, Robert Marzano, Jay McTigh, Richard Stiggins, Grant Wiggins, Doug Reeves, Carol Ann Tomlinson, and Ruby Payne.

Through continuous monitoring and assessment of the teacher candidate's performance in the classroom, the CST provides recommendations for advancement or retention in the program. Throughout this transition, or induction phase, teacher candidates provide evidence of the knowledge, skills, and dispositions required in 24 teaching competencies specified in the Educator Preparation rule 505-3-.05 for successful completion of the program. To complete the program, candidates must score at the proficient level on all competencies.

Upon meeting all the required teacher competencies, including the Georgia Special Requirements and a minimum of one year of mentoring/coaching, teacher candidates are recommended by the CST for Georgia Clear Renewable Certification.

ADDITIONAL RELATED DOCUMENTS

Educator Preparation Rule: 505-3-.001 REQUIREMENTS AND STANDARDS FOR APPROVING PROFESSIONAL EDUCATION UNITS AND EDUCATOR PREPARATION PROGRAMS

Appendix D3: GaTAPP Requirements for Clear and Renewable Certificate by Alternative Pathways

Common Requirements for All Alternative Paths
Candidates: • Are assigned a Candidate Support Team (CST) consisting for a school-based administrator and mentor/coach, a supervisor from the provider, and a content specialist • May complete the path in a minimum of one year and must complete the program in three years • Have an Individual Induction Plan (IIP) determined by the CST and Candidate • Meet 24 competencies required for Clear Renewable Certification as assessed by the CST • Demonstrate the required dispositions • Have a passing score on the appropriate GACE Assessments • Have the credentials to be Highly Qualified • Employment with school system • Pass a Criminal Background check • Complete the Georgia Special Requirements

Path	Requirements Specific to Each Pathway
GaTAPP (Comprehensive) 1 Certificate	***Required Essentials of Effective Teaching* class or its equivalent or differentiated instruction in the Essentials curriculum according to assessed needs of the Candidate**: • Candidates with content-rich knowledge learn to teach the Georgia Performance Standards (GPS) in the teaching fields for which they are assigned; • The class may be 2 weeks in the summer with seminars during the year according to Candidate's assessed needs by the CST. **Entry:** • GACE Basic Skills or exempt • For subject areas that are labeled core academic teaching fields by NCLB: o GACE Content Assessment OR o Major or sufficient semester hours to constitute a major in a area or a related field • All other fields that are not included list of core academic teaching fields: o Major OR o Sufficient semester hours to constitute a major in a teaching field OR o GACE Content Assessment **Exit:** • Completed all path requirements • All Candidates must have a passing score on the **GACE Content Assessment** to complete the path.

Appendix D3: GaTAPP Requirements for Clear and Renewable Certificate by Alternative Pathways

Path	Requirements Specific to Each Pathway
Advanced Degree Alternative Certification (ADAC) A Certificate	No Essentials class **Entry:** • For individuals who hold advanced degrees in content areas for which the state issues renewable teacher certification or individuals who hold Juris Doctor Degrees. Individuals holding a Juris Doctor degree will be in-field to teach political science **Exit:** • Complete all path requirements • GACE Professional Pedagogy Assessment
Core Academic Path CA certificate	No Essentials class For secondary and Middle Grades Core Academic teaching fields only **Entry:** • 2.5 GPA • Major or sufficient semester hours to constitute a major in a Core Academic subject area • GACE Basic Skills or exempt • GACE Content Assessment **Exit:** • Complete all path requirements • GACE Professional Pedagogy Assessment
One-Year Supervised Practicum (OYSP) O certificate	No Essentials class **Entry:** • GACE Basic Skills or exempt • Major or sufficient semester hours to constitute a major in a area or a related field • GACE Content Assessment • GACE Professional Pedagogy Assessment **Exit:** • Complete all path requirements

Appendix D3: GaTAPP Requirements for Clear and Renewable Certificate by Alternative Pathways

Path	Requirements Specific to Each Pathway
Clinical Practice CP certification	No Essentials class Two categories of Candidates: • Permit holders who have completed 5 years teaching and eligible to apply for the 2nd renewal • Candidates who have completed an education preparation program with a degree, but did not student teach. The Candidate must be eligible for student teaching at the college or university where the degree was earned. • Candidates must have passed appropriate GACE Assessments, met IIP, Georgia Special Requirements to be recommended for Clear Renewable.
Adjunct Alternative License J License *Not a certificate	THIS LICENSE DOES NOT LEAD TO A CLEAR RENEWABLE CERTIFICATE, BUT IS A PATH FOR PLACING QUALITY TEACHERS IN HARD-TO-STAFF SCHOOLS AND/OR LOW INCIDENCE TEACHING FIELDS. The Adjunct Teaching Path is designed for candidates with content-specific knowledge and skills such as experienced instructors in the military or institutions of higher education, or business/industry/arts professionals who can provide instruction in secondary education (grades 6-12) teaching fields. AWARD OF THE J LICENSE REQUIRES APPLICATION BY THE SCHOOL SYSTEM. THE LICENSE IS RENEWED ANNUALLY AS DETERMINED BY THE SCHOOL SYSTEM

Appendix D4: Alternative Pathway Summary Table

Route	Various types of providers	Selective	Supervised, school-based experiences and ongoing support	Significantly limit amount of coursework	Awards same level of certification as traditional programs	# Teachers who successfully completed program in 2008-09	# Teachers who were awarded a clear renewable certificate in 2008-09	# Teachers currently enrolled in a GaTAPP program and who hold the appropriate non-renewable certificate[1] in 2008-09
Full GaTAPP	PSC-approved LEAs and RESAs	Yes	Yes	Yes	Yes	837[2]	837	5,809
Advanced Degree Alternative Certification	PSC-approved LEAs and RESAs	Yes	Yes	Yes	Yes	n.a. PSC Rule went into effect May 15, 2009. First year of participation is 2009-2010.	n.a.	
Core Academic Path	PSC-approved LEAs and RESAs	Yes	Yes	Yes	Yes	n.a. PSC Rule went into effect May 15, 2009. First year of participation is 2009-2010.	n.a.	
Clinical Practice Path	PSC-approved LEAs and RESAs	Yes	Yes	Yes	Yes	n.a. PSC Rule went into effect May 15, 2009. First year of participation is 2009-2010.	n.a.	
One-Year Supervised Practicum	PSC-approved LEAs and RESAs	Yes	Yes	Yes	Yes	234	234	

Note: These alternate route programs are for teacher certification only. Currently Georgia does not have alternate routes to certification for principals.

[1] Upon entering a GaTAPP program and being hired by a school / school system, the individual is issued a GaTAPP non-renewable teaching certificate. The certificate is valid for up to three years. During this time the teacher must complete the program. Upon completion of the program, the non-renewable certificate is converted to a clear renewable certificate.

[2] Alternative certification figures prior to 2009 include the Masters of Art (MAT), an alternative certification program sponsored by the USG. Beginning in 2009, alternative certification figures exclude MAT certifications making the figures appear lower than in previous years

Appendix D5: Georgia ONmyLINE

Georgia ONmyLINE

Georgia ONmyLINE provides access to a full array of online and distance education offerings from the 35 colleges and universities in the University System of Georgia. Prospective and enrolled students can use the site to find programs and/or courses that meet their career or degree needs. They can apply for admission to colleges and universities, and once accepted, register for courses. The offerings listed on the site serve both students who seek fully online solutions for their education needs, as well as on-campus students who seek occasional online formats to meet their content, time, and scheduling needs.

Students admitted to University System of Georgia's online programs learn the same material and benefit from the same rigorous and high-quality learning experiences as campus-based students and they enjoy frequent interactions with the instructor and other classmates. In fact, instead of being limited to asking questions during class or office hours, students have direct access to instructors via email or message boards. Instructors receive the necessary online course skills and training to ensure that they can effectively teach online. These instructors incorporate the best practices of traditional teaching, just in a virtual classroom setting.

The quality of online courses and programs is extremely important to the faculty and administration of the University System of Georgia – they are committed to maintaining the academic excellence for which they are known. We make every effort to achieve the highest level of instructional quality and student satisfaction in all our online offerings. The online catalogue adheres to the following external standards of quality:

- All 35 institutions in the University System of Georgia are accredited by the Commission on Colleges of the Southern Association of Colleges and Schools. SACS is one of the six regional accrediting agencies recognized by the National Board of Education.

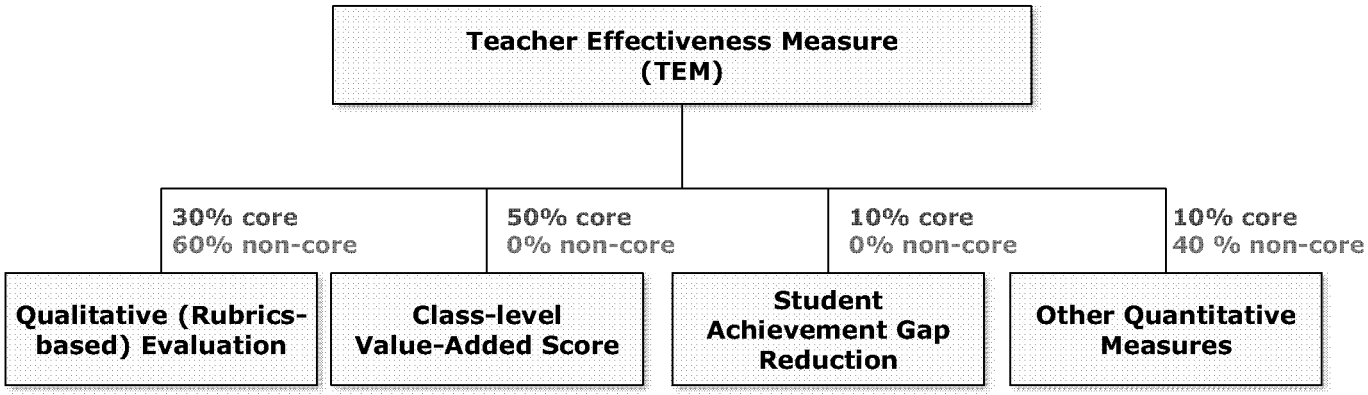
- Earning college credit from an institution accredited by a regional accrediting agency is the surest way to have your college credit recognized and accepted by employers and other universities.

- SACS has quality standards for distance education programs that all courses and programs affiliated with colleges and universities in the University System of Georgia must follow.

- The University System of Georgia endorses the Southern Regional Education Board's Principles of Good Practice. A consortium of the K-20 educational systems of the sixteen southeastern states, SREB works with state governments and other stakeholders to improve teaching and learning

Appendix D6: Teacher Effectiveness Measure (TEM)

Teacher Effectiveness Measure – Recommended



- Evaluation tool with multiple rating categories and based on a number of inputs (**peer** and **principal** observations, informal walk-throughs, teacher artifacts like lesson plans and portfolios)

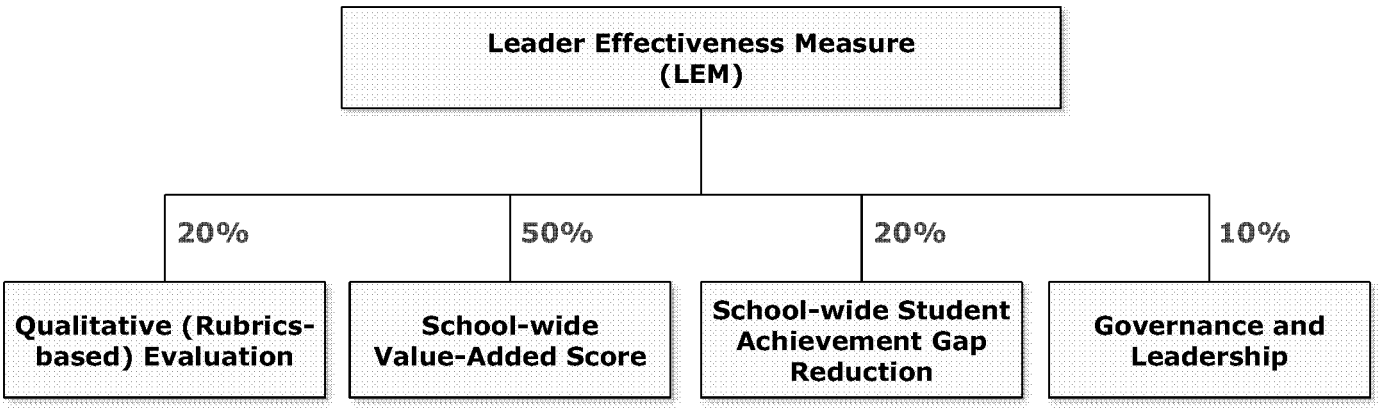
- Measures student growth in tested areas school-wide

- Measures gap reduction over a year

- Student surveys (starting in grade 4)
- Parent surveys in grades PK-3
- Peer surveys/ratings
- Other quantitative measures that are rigorous and comparable across classroom (to be investigated further)

Appendix D7: Leader Effectiveness Measure (LEM)

Leader Effectiveness Measure – Recommended



- Evaluation tool with multiple rating categories and based on a number of inputs (e.g., quality of school improvement plan; student, staff and parental feedback)

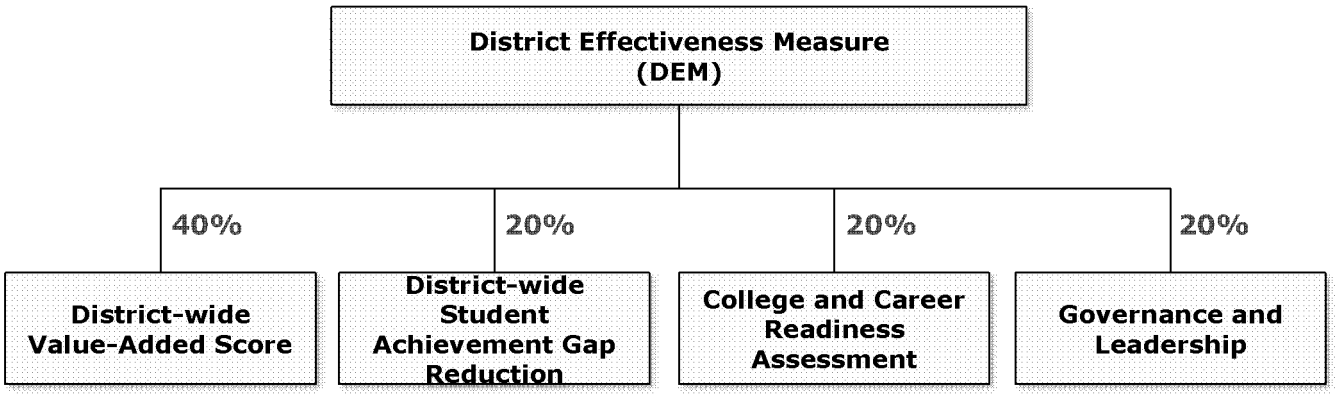
- Measures student growth in tested areas school-wide
- Student graduation rate (HS)

- Measures student achievement gap reduction over a year

- Climate surveys measuring school working conditions
- Student attendance (E/M/H)
- Retention of effective teachers

Appendix D8: District Effectiveness Measure (DEM)

District Effectiveness Measures – Recommended



- Measures student growth in tested areas district-wide

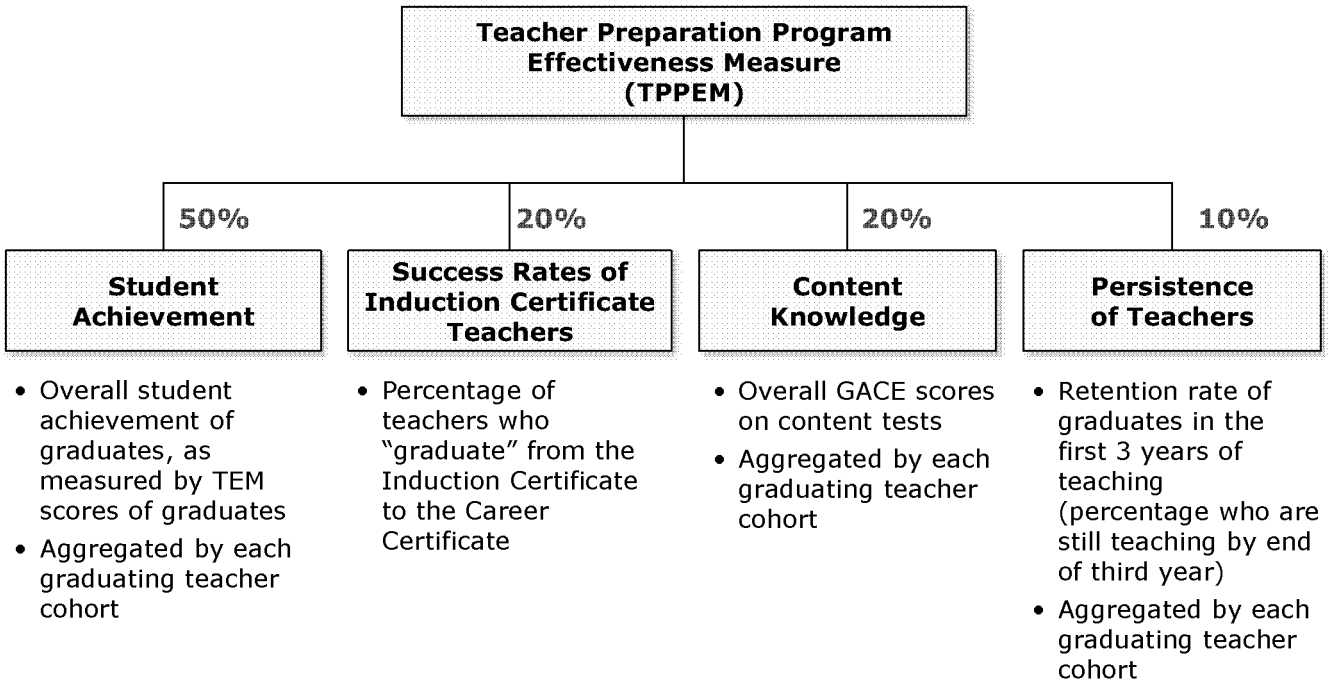
- Measures gap reduction over a year
- Measures the percent of NI schools in the district (out of all schools in the system)

- Percentage of the district's high school graduates that enroll in postsecondary somewhere in the country
- High school graduation rate

- Measures district's success, relative to other districts, in developing effective leaders and teachers
- Climate surveys measuring overall environment and working conditions in district
- Accreditation standing
- Operational excellence (e.g., audit results)

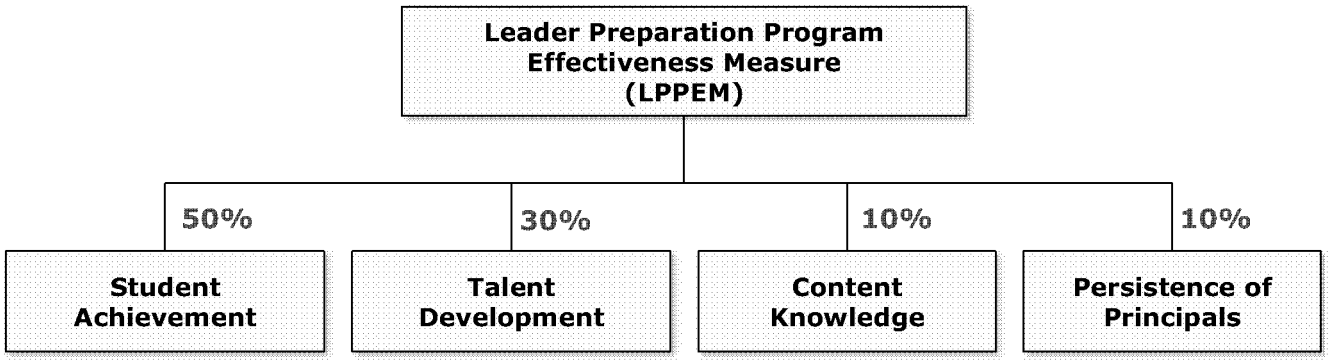
Teacher Preparation Programs Effectiveness Measure

Recommended



Leader Preparation Programs Effectiveness Measure

Recommended



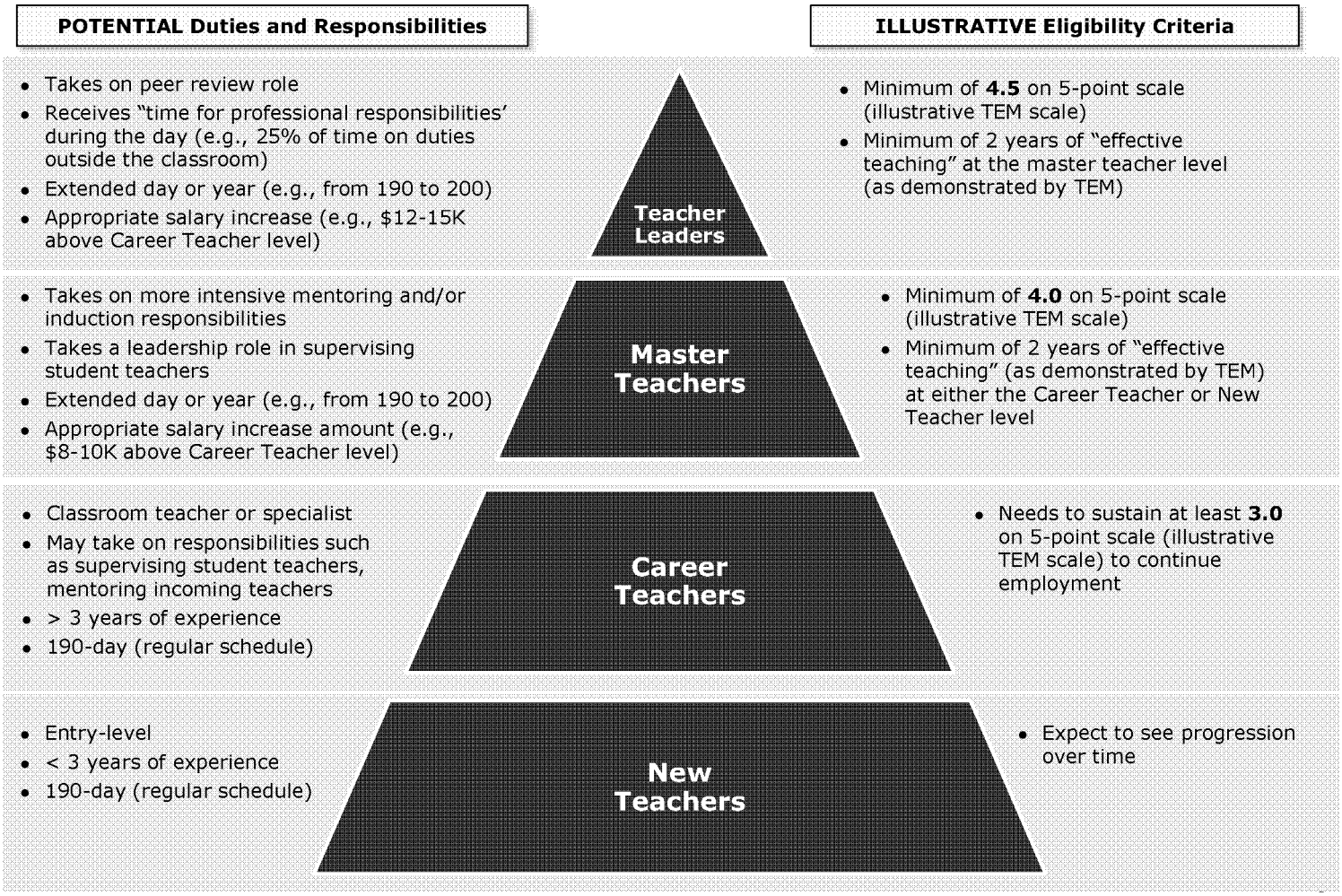
- Overall student achievement of graduates, as measured by LEM scores of graduates
- Aggregated by each graduating leader cohort

- Overall TEM scores, aggregated for teachers in the leader's school
- Aggregated by each graduating leader cohort

- Overall GACE scores on Leadership Assessment
- Aggregated by each graduating leader cohort

- Percentage of graduates who are still in the K-12 system in leadership positions by the end of their third year (at the building or district office level) – not necessarily in the same district
- Aggregated by each graduating leader cohort

Career Ladder Guidelines



Appendix D12: Preliminary Performance-based Compensation Guidelines

I. Overview – Core Principles

The RT3 Teacher Effectiveness Working Group developed the following Core Principles which drive the preliminary performance-based compensation plan outlined further below:

1. Georgia will put in place a common statewide evaluation system that will allow the State to ensure consistency and comparability across districts (based on a common definition of teacher / principal effectiveness).
2. The evaluation system will allow the State to develop a single Teacher Effectiveness Measure (TEM) for each teacher and a single Leader Effectiveness Measure (LEM) for each principal. [An adjusted LEM may need to be developed to include assistant principals]. See *Appendices D6 and D7* for preliminary TEM and LEM measures.
3. The quantitative value-added component will constitute at least 50% of the overall TEM for teachers in "core" areas (tested subjects) and at least 50% of the overall LEM for all principals.
4. Clear expectations will be set for teachers and principals in terms of performance, and supports will be provided to teachers and principals to help them meet performance requirements.
5. TEM (LEM) will be used to inform talent management decisions such as promotion, recertification, professional development supports, interventions, and differentiated compensation.
6. Under the new system, effective teachers will have equal or greater earning potential as under the current salary schedule.
7. Step increases will be tied to the rubrics-based statewide evaluation tool. [A cut-off score will be established to determine whether a teacher is eligible for a step increase.]
8. The State will reduce graduate degrees as a direct basis for higher compensation for teachers. As more information becomes available over time about the effectiveness of different teacher preparation programs (i.e., through tying TEM to teacher preparation programs they attended), the State may decide to reimburse tuition for programs deemed to be significantly more effective than others.
9. Individual performance bonuses will be awarded to teachers on the basis of TEM, and to principals on the basis of LEM (and to assistant principals on the basis of an adjusted LEM, to be developed).
10. The State will place a priority on core areas by providing higher individual incentives to staff in "core" (tested) subjects.
11. Additional individual bonuses will be available to teachers in tested subject areas in high-need schools if they reduce the student achievement gap (defined as the difference between any student subgroup ($n \geq 15$) in a given teacher's classroom and the highest performing subgroup in the State based on aggregated performance, by student subgroup, at the State level).
12. This will be an opt-in system for existing teachers. Teachers who choose not to opt in will be grandfathered in to their current salary levels and be eligible for step increases (if they meet the cut-off score on the rubrics-based evaluation tool). They will also be eligible for career ladder opportunities, but will not receive additional pay for these opportunities. They will not have access to individual merit bonus opportunities

13. New teachers (starting in whatever year the merit pay system is launched) will be placed automatically in the performance-based pay system.

II. Preliminary Performance-based Compensation Model

In keeping with the Core Principles listed above, Georgia is proposing the following performance-based compensation system for teachers and leaders as part of its RT3 application (and beyond RT3).

Teachers:

1. A new state salary schedule for teachers will replace the current degree-based compensation system with a performance-based compensation system which will have two core components (see *Appendix D13: Legislation on Performance-based Compensation*):
    - A baseline starting salary (common for all teachers), and
    - A performance-based bonus portion which will be available to all teachers based on meeting effectiveness measure requirements (possible bonus ranges provided in Section III below).
2. Teachers will continue to earn step increases, but these increases will be tied to performance/effectiveness as well.
    - While this is not a legislative change (current law already allows for tying step increases to teachers' evaluations), the practice and implementation of the law will be significantly more rigorous, as the step increase decision will be based on a new rigorous evaluation system with multiple components (with student growth as a significant component) and a broader range of ratings (e.g., scale of 1-5 rather than Satisfactory/Unsatisfactory ratings).
3. Access to additional individual bonuses will be available for teachers in tested subject areas who teach in high-need schools and who significantly reduce the achievement gap.
    - Student achievement gap is defined as the difference in achievement between any student subgroup ($n \geq 15$) in a given teacher's classroom and the highest performing subgroup in the State (based on aggregated performance, by student subgroup, at the State level).
    - For principals, student achievement will be aggregated, by subgroup, at the school level and the differences in achievement between the school's subgroups and the highest performing subgroup in the State will be used as a basis for determining size of gap reduction.
    - GOSA, on behalf of the State will work closely with Participating LEAs and measurement experts (Technical Advisory Committee) to identify a) the specific method for calculating the reduction and b) the level of gap reduction needed to be deemed significant.
4. There will also be career advancement opportunities for teachers, e.g., in the form of Master Teachers or Teacher Leaders (see *Appendix D11: Preliminary Career Ladder Guidelines*). Guidelines will be finalized in collaboration with Participating LEAs. All teachers who meet agreed upon effectiveness (TEM) criteria will be eligible to apply for these roles. Preliminary guidelines are listed below:
    - Master Teacher: Minimum of 3 years of total teaching experience and within that 2 years of effective teaching experience (as demonstrated by TEM. Needs to

meet agreed upon Master Teacher TEM eligibility levels). Examples of additional responsibilities for Master Teacher might include taking on much more intensive supervision of student teachers, more intensive participation in new teacher induction programs;

- Teacher Leader: In addition to experience and effectiveness requirements outlined under the Master Teacher role, a minimum of 2 years of effective teaching at the Master Teacher level (as demonstrated by TEM. Needs to meet agreed upon Teacher Leader TEM eligibility levels). Examples of additional responsibilities for Teacher Leaders might include taking on a peer review role as part of the new evaluation system for teachers
- Master Teachers and Teacher Leaders will likely work an extended day or extended year schedule, given their additional responsibilities.

5. Performance-based bonuses will be included in pension calculations for teachers.
6. Given that the State is allowing current teachers to opt into the new salary schedule (and grandfathering those teachers that choose not to opt in), the State will operate two salary schedules simultaneously, until the last teacher who has been grandfathered exits from the system.

Leaders (Principals and Assistant Principals)

1. Leaders will be eligible for individual bonuses based on effectiveness levels, as measured by LEM which includes ratings on a research-based evaluation tool with multiple rating categories, school-wide student growth, reduction in student achievement gap at the school level, and governance and leadership indicators. (See *Appendix D7*: *LEM* for description of components.)
2. Performance-based bonuses will be included in pension calculations for leaders.

III. Potential Ranges of Bonuses

Teachers in "Core" [Tested Subject] Areas

Individual performance bonuses: There will be tiers of bonuses tied to tiers of effectiveness levels, as measured by TEM:

- Tier 1: $10,000-$15,000 range
- Tier 2: $5,000-$10,000 range
- Tier 3: $2,500-$5,000 range
- Tier 4: $1,000-$2,500 range
- Tier 5: $0K

Individual bonuses tied to student achievement gap reduction at high-need schools:

- Up to $5,000

Career ladder role salary increases:

- Master Teacher level: up to $10,000 increase
- Teacher Leader level: up to $5,000 increase (on top of Master Teacher level)

Appendix D12: Preliminary Performance-based Compensation Guidelines

Teachers in "Non-Core" [Not Tested Subject] Areas

Individual performance bonuses: There will be tiers of bonuses tied to tiers of effectiveness levels, as measured by TEM:

- Tier 1: $6,500-$10,000 range
- Tier 2: $3,000-$6,5000 range
- Tier 3: $1,500-$3,000 range
- Tier 4: $600-$1,500 range
- Tier 5: $0K

Individual bonuses tied to student achievement gap reduction at high-need schools:

- N/A (subjects cannot be tested through standardized tests; gap cannot be measured)

Career ladder role salary increases:

- Master Teacher level: up to $10,000 increase
- Teacher Leader level: up to $5,000 increase (on top of Master Teacher level)

Principals

Individual performance bonuses: There will be tiers of bonuses tied to tiers of effectiveness levels, as measured by TEM:

- Tier 1: $15,000-$25,000 range
- Tier 2: $7,500-$15,000 range
- Tier 3: $2,500-$7,500 range
- Tier 4: $0

Assistant Principals

Individual performance bonuses: There will be tiers of bonuses tied to tiers of effectiveness levels, as measured by TEM:

- Tier 1: $7,500-$10,000 range
- Tier 2: $5,000-$7,5000 range
- Tier 3: $2,500-$5,000 range
- Tier 4: $0

Appendix D13: Georgia Teacher Evaluation Statute

O.C.G.A. § 20-2-210

GEORGIA CODE

*** Current through the 2009 Regular Session ***

TITLE 20. EDUCATION
CHAPTER 2. ELEMENTARY AND SECONDARY EDUCATION
ARTICLE 6. QUALITY BASIC EDUCATION
PART 6. EMPLOYMENT
SUBPART 2. CONDITIONS OF EMPLOYMENT

O.C.G.A. § 20-2-210 (2009)

§ 20-2-210. Annual performance evaluation

(a) All personnel employed by local units of administration, including school superintendents, shall have their performance evaluated annually by appropriately trained evaluators. All such performance evaluation records shall be part of the personnel evaluation file and shall be confidential. In the case of local school superintendents, such evaluations shall be performed by the local board of education. Certificated professional personnel who have deficiencies and other needs shall have professional development plans designed to mitigate such deficiencies and other needs as may have been identified during the evaluation process. Progress relative to completing the annual professional development plan shall be assessed during the annual evaluation process. The state board shall develop a model annual evaluation instrument for each classification of professional personnel certificated by the Professional Standards Commission. The local units of administration are authorized to use the models developed by the State Board of Education.

(b) Annual **teacher evaluations** shall at a minimum take into consideration the following:

(1) The role of the teacher in meeting the school's student achievement goals, including the academic gains of students assigned to the teacher;
(2) Observations of the teacher by the principal and assistant principals during the delivery of instruction and at other times as appropriate;
(3) Participation in professional development opportunities and the application of concepts learned to classroom and school activities;
(4) Communication and interpersonal skills as they relate to interaction with students, parents, other teachers, administrators, and other school personnel;
(5) Timeliness and attendance for assigned responsibilities;
(6) Adherence to school and local school system procedures and rules; and
(7) Personal conduct while in performance of school duties.

(c) In making a determination of the academic gains of the students assigned to a teacher, evaluators should make every effort to have available and to utilize the results of a wide range of student achievement assessments, including those utilized by the teacher, set by the local board of education, or required under this article. It is recognized that in some instances a

determination of the academic gains of the students assigned to a teacher is dependent upon student assessments which have not yet been administered at the time of the annual evaluation or, if they have been administered, the results are not yet available at the time of the annual evaluation. In such instances, the annual **teacher evaluation** shall be performed on the basis of information available at the time and shall be considered as the annual evaluation for the purposes of this article. As results of student assessments subsequently become available, an addendum to the annual evaluation shall be completed and become part of the teacher's cumulative evaluative record which may be used in a teacher's subsequent annual evaluations.

(d) The superintendent of each local school system shall identify an appropriately trained evaluator for each person employed by the local unit of administration for the purposes of completing an annual evaluation as required in subsections (a) and (b) of this Code section. The evaluator shall be required to complete such annual evaluation for each certificated person prior to April 1 of each year. The superintendent of each local school system shall be responsible for ensuring compliance with this Code section.

(e) In addition to the evaluation by a trained evaluator provided for in subsection (a) of this Code section, the local school system may require each principal and assistant principal of a school to have his or her performance evaluated annually by the teachers in the school. Such evaluations by teachers shall be confidential, solicited and recorded on an anonymous basis, and made available only to the local school superintendent and the local board of education. Such evaluations shall not be subject to Article 4 of Chapter 18 of Title 50.

(f) Any teacher who removes more than two students from his or her total class enrollment in any school year under subsection (b) of Code Section 20-2-738 who are subsequently returned to the class by a placement review committee because such class is the best available alternative may be required to complete professional development to improve classroom management skills, other skills on the identification and remediation of academic and behavioral student needs, or other instructional skills as identified in a plan derived by the principal of the school in consultation with the teacher.

HISTORY: Code 1981, § 20-2-210, enacted by Ga. L. 1985, p. 1657, § 1; Ga. L. 1987, p. 1169, § 1; Ga. L. 1988, p. 612, § 9; Ga. L. 1991, p. 1546, § 4; Ga. L. 1995, p. 1072, § 1; Ga. L. 1999, p. 438, § 3; Ga. L. 2000, p. 618, § 32.

Appendix D13: Georgia Teacher Evaluation Statute

O.C.G.A. § 20-2-212

GEORGIA CODE

*** Current through the 2009 Regular Session ***

TITLE 20. EDUCATION
CHAPTER 2. ELEMENTARY AND SECONDARY EDUCATION
ARTICLE 6. QUALITY BASIC EDUCATION
PART 6. EMPLOYMENT
SUBPART 2. CONDITIONS OF EMPLOYMENT

O.C.G.A. § 20-2-212 (2009)

§ 20-2-212. Salary schedules

(a) The State Board of Education shall establish a schedule of minimum salaries for services rendered which shall be on a ten-month basis and which shall be paid by local units of administration to the various classifications of professional personnel required to be certificated by the Professional Standards Commission. The minimum salary schedule shall provide a minimum salary base for each classification of professional personnel required to be certificated; shall provide for increment increases above the minimum salary base of each classification based upon individual experience and length of satisfactory service; and shall include such other uniformly applicable factors as the state board may find relevant to the establishment of such a schedule. The minimum salary base for certificated professional personnel with bachelor's degrees and no experience, when annualized from a ten-month basis to a 12 month basis, shall be comparable to the beginning salaries of the recent graduates of the University System of Georgia holding bachelor's degrees and entering positions, excluding professional educator teaching positions, in Georgia having educational entry requirements comparable to the requirements for entry into Georgia public school teaching. The placement of **teachers on the salary schedule** shall be based on certificate level and years of creditable experience, except that a teacher shall not receive credit for any year of experience in which the teacher received an unsatisfactory performance evaluation. The General Assembly shall annually appropriate funds to implement a salary schedule for certificated professional personnel. For each state fiscal year, the state board shall adopt the salary schedule for which funding has been appropriated by the General Assembly. A local unit of administration shall not pay to any full-time certificated professional employee a salary less than that prescribed by the schedule of minimum salaries, except as required by this Code section; nor shall a local unit of administration pay to any part-time certificated professional employee less than a pro rata portion of the respective salary prescribed by the schedule of minimum salaries, except as required by this Code section. For purposes of this subsection, an educator's placement on the salary schedule shall not be based on a leadership degree, which shall mean a degree earned in conjunction with completion of an educator leadership preparation program approved by the Professional Standards Commission, if the degree was earned on or after July 1, 2010, unless the educator is employed in a leadership position as defined by the State Board of Education, but shall be placed on the salary schedule

position attributable to the educator but for the leadership degree; provided, however, that this shall not apply to an educator who possessed a leadership degree prior to July 1, 2010, regardless of whether or not he or she is in a leadership position.

(b) Local units of administration may supplement the salaries of personnel subject to the schedule of minimum salaries under subsection (a) of this Code section and, in fixing the amount of those supplements, may take into consideration the nature of duties to be performed, the responsibility of the position held, the subject matter or grades to be taught, and the experience and performance of the particular employee whose salary is being supplemented. In any fiscal year in which such personnel receive an increase under the minimum salary schedule, a local unit of administration shall not decrease any local salary supplement for such personnel below the local supplement amount received in the immediately preceding fiscal year by those personnel of that local unit of administration unless such local unit of administration has conducted at least two public hearings regarding such decrease, notice of which hearings, including the time, place, agenda, and specific subject matter of the meeting, the local unit shall cause to be published in the legal organ of the county which is the legal situs of such local unit one time at least seven days prior to the date such hearings are to be held. Written notice shall be provided to each employee subject to the schedule of minimum salaries under subsection (a) of this Code section at least seven days prior to the date of the hearings. Each such hearing shall be held and shall commence after school hours to allow certificated and noncertificated personnel to attend.

(c) A local unit of administration shall pay beginning classroom teachers the first salary payment for the number of days worked at the end of the first month of the school year in which service is rendered. The State Board of Education shall develop rules and procedures for implementing this subsection by July 1, 2001.

HISTORY: Code 1981, § 20-2-212, enacted by Ga. L. 1985, p. 1657, § 1; Ga. L. 1987, p. 1169, § 1; Ga. L. 1988, p. 612, § 10; Ga. L. 1991, p. 1546, § 4; Ga. L. 1994, p. 782, § 1; Ga. L. 2000, p. 618, § 35; Ga. L. 2001, p. 1096, § 1; Ga. L. 2006, p. 469, § 1/HB 1483; Ga. L. 2009, p. 4, § 1B/HB 455.

Appendix D13: Georgia Teacher Evaluation Statute

O.C.G.A. § 20-2-212.4

GEORGIA CODE

*** Current through the 2009 Regular Session ***

TITLE 20. EDUCATION
CHAPTER 2. ELEMENTARY AND SECONDARY EDUCATION
ARTICLE 6. QUALITY BASIC EDUCATION
PART 6. EMPLOYMENT
SUBPART 2. CONDITIONS OF EMPLOYMENT

O.C.G.A. § **20-2-212.4** (2009)

§ **20-2-212.4.** Additional five percent increase in teacher salary based on student performance

Any teacher who has acquired rights to continued employment as a teacher shall receive an increase in annual state compensation of 5 percent, beginning the school year following any year in which the students taught by such teacher earn a significant increase in average scores on the criterion-referenced test or any other test selected by the State Board of Education for that purpose. The State Board of Education shall define "significant increase" for the purposes of this Code section. The increase earned by compliance with this Code section shall be in addition to all other salary increases for which the teacher is eligible.

HISTORY: Code 1981, § **20-2-212.4,** enacted by Ga. L. 2003, p. 896, § 1.

Appendix D13: Georgia Teacher Evaluation Statute

O.C.G.A. § 20-2-213

GEORGIA CODE

*** Current through the 2009 Regular Session ***

TITLE 20. EDUCATION
CHAPTER 2. ELEMENTARY AND SECONDARY EDUCATION
ARTICLE 6. QUALITY BASIC EDUCATION
PART 6. EMPLOYMENT
SUBPART 2. CONDITIONS OF EMPLOYMENT

O.C.G.A. § **20-2-213** (2009)

§ **20-2-213.** Career ladder programs

The State Board of Education is authorized and directed to devise career ladder programs for teachers and other certificated professional personnel which provide such personnel who demonstrate above average or outstanding competencies relative to their respective positions and exhibit above average or outstanding performance in executing their assigned responsibilities with salary supplements in recognition of such competency and performance. Achievement of students beyond the level that is typically expected for their ability shall be included in the performance criteria for any of the respective personnel categories when specified by the state board. The state board shall submit its policies and guidelines pertaining to the implementation of career ladder programs, along with the recommendations of the career ladder task force, to the General Assembly for review prior to submitting a request for funds to grant salary supplements under this program. The state board shall grant sufficient funds to each local unit of administration to pay the salary supplements of all personnel awarded supplements under the career ladder programs, subject to appropriation by the General Assembly.

HISTORY: Code 1981, § **20-2-213,** enacted by Ga. L. 1985, p. 1657, § 1; Ga. L. 1987, p. 1169, § 1; Ga. L. 1991, p. 1546, § 4.

Appendix D14: GIFT

Georgia Intern-Fellowships for Teachers (GIFT)

What is it?

Founded in 1991 as a program of the Georgia Institute of Technology's CEISMC, the GIFT program is a paid 4-7 week summer internship for science, mathematics and technology teachers. As a collaboration between industry and education, GIFT is designed to contribute to solving problems of business and to provide classroom teachers with "real life" experiences in the applications of science and mathematics. Teachers are exposed to inquiry and problem solving, cutting-edge scientific research, and data analysis.

Through business and industry internships and public science institute and research fellowships, teachers increase content knowledge and gain practical examples of science, technology, engineering, and mathematics applications for enriched instruction and teaching practices based on evidence-based experiences. GIFT places 75-80 teacher per summer. Since its founding, GIFT has placed more than 1500 teachers in internship and research positions statewide.

GIFT program services

- Provide industry efficient method of identifying and selecting teacher(s).
- Orient teacher to work environment and sponsor representative to K-12 workplace culture.
- Provide ongoing support to sponsor representative and teacher during internship.
- Assist teachers in creation of an Action Plan (i.e. lesson plan) for transferring experience to the classroom.
- Provide support for implementing Action Plan into the classroom.
- Cost per GIFT sponsorship is $7,100 per teacher, including teacher stipend.

Program benefits

For Sponsors

- Sponsors receive an enthusiastic employee who becomes an advocate for the sponsoring organization. Because teachers transform their summer work experiences into classroom implementation plans, opportunities arise for sponsor involvement in the classroom environment.
- Sponsors have the opportunity to help teachers understand the use of technology. As a whole, the GIFT experience is dedicated to raising student interest in science, technology, mathematics, and engineering (STEM). Thus, the program helps to shape a more capable STEM workforce for tomorrow, which is of future benefit to the sponsoring organization.

For System

- School systems gain teachers who have experienced STEM applications in contemporary settings. They transfer their experiences and observations to their students. GIFT teachers often take on leadership positions in their schools and share their experiences and enthusiasm with colleagues.

For Teachers

- The teacher gets to apply contemporary STEM applications in a workplace environment.
- The teacher gains opportunities to network with business mentors, faculty and staff of higher institutions, and teachers from other school systems.
- Teachers feel renewed and confident.
- Teachers develop inquiry-based relevant mathematics, science, and technology lessons for their classrooms

For Students

- Students are motivated to learn more about science, mathematics, and technology because they can make the connection of how these topics apply to the real world.
- Students have opportunities to learn from business professionals and research scientists. GIFT believes this increased exposure for students to real life STEM examples in the workplace can lead to increased interest in the desired fields of study, higher test scores and graduation rates, and an increase in qualified applicants for science, mathematics and technology positions in
- Students become more aware of career opportunities in the STEM fields and the skills required.

Where does GIFT take place?

GIFT takes place across Georgia, with concentrations in metro-Atlanta, Savannah, Macon, Augusta, Athens, Tifton and Albany; plus Georgia Power Plants across the state.

Appendix D14: GIFT

Do teachers receive a stipend?
Teachers receive $728 per week for their participation in the program, as well as 10 staff development units, upon completion of all program requirements

2008 GIFT Sponsors and Funders

Intern-Fellowships Sponsors
Cisco
Emory University
EMS Technologies
Georgia Institute of Technology
Georgia Power Company
Georgia Tech Enterprise Innovation Institute
Georgia's Teacher Quality – Higher Ed Program
Gwinnett Technical College
National Science Foundation
Nordson Corporation
Siemens Foundation
Solvay Pharmaceuticals
The UPS Foundation
United Parcel Service
United States Department of Transportation
University of Georgia (Tifton, Griffin & Athens)
USDA National Peanut Laboratory
Yerkes Center

End of Summer Celebration Funders
AT&T
Kroger
Georgia Biomedical Partnership
Paul A. Duke's Endowed Fund

Appendix D15: TFA, TNTP and UTeach Outcomes

Teach for America (TFA) Statistics

- **Teacher Effectiveness**
  - "Findings show that TFA teachers are more effective, as measured by student exam performance, than traditional teachers. Moreover, they suggest that the TFA effect, at least in the grades and subjects investigated, exceeds the impact of additional years of experience, implying that TFA teachers are more effective than experienced secondary school teachers. The positive TFA results are robust across subject areas, but are particularly strong for math and science classes." [1]
  - "The shift in the entry pathway of teachers has had a large impact on the distribution of teacher qualifications for two reasons. First, Teaching Fellows and TFA teachers on average have test scores and prior academic experiences that are stronger than those of other teachers, and much stronger than those of temporarily licensed teachers." [2]
  - "Between 2000 and 2005, 44 percent of newly hired Teaching Fellows and TFA teachers were placed in schools in the highest-poverty quartile; and, by 2005, 40 percent of all new hires in the highest poverty quartile were Teaching Fellows or TFA corps members." [2]
  - "In 2000, before Fellows and TFA teachers were significant in numbers, 63 percent of newly hired teachers in the highest poverty quartile were temporarily licensed teachers. The hiring of Fellows and TFA teachers into high poverty schools, instead of temporarily licensed teachers, has been responsible for much of the narrowing of the gap in teacher qualifications between high-poverty and low-poverty schools." [2]

The New Teacher Project (TNTP) Statistics

- **Fellow Retention:** On average, Teaching Fellows surpass the estimated national averages for new teacher retention in urban schools.

	Teaching Fellows	Estimated National Average
Avg. % starting Y2	**87%**	82%
Avg. % starting Y3	**75%**	69%
Avg. % starting Y4	**63%**	57%

2009 data. Includes mid-year programs.
Retention measured as Fellow = 1, not site = 1

- **TNTP has also found that retention rates tend to increase as its programs become more established.**
  - For example, in 2001, the first year of the New York City Teaching Fellows program, 82% of teachers returned to teach their second year. By 2005, the fifth year of the program, 88% of teachers returned to teach their second year.
  - Two 2006 value-added studies of NYCTF showed that Fellow retention is, on average, as good as or better than that of traditionally prepared teachers, especially in the first few years in the classroom.

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[1] Xu, Z., Hannaway, J. & Taylor, C. (2008). *Making a difference? The effect of Teach for America on student performance in high school.* Urban Institute: http://www.urban.org/url.cfm?ID=411642

[2] Boyd, D., Lankford, H., Loeb, S., Rockoff, J, & Wycloff, J. (2007). *The narrowing gap in New York City teacher qualifications and its implications for student achievement in high-poverty schools.* National Center for the Analysis of Longitudinal Data in Education Research.

Appendix D15: TFA, TNTP and UTeach Outcomes

- **Fellow Effectiveness:** The Louisiana Board of Regents, in partnership with the Louisiana Department of Education and Louisiana State University, are conducting an ongoing study of the effectiveness of Louisiana's teacher preparation programs. The study uses a value-added model that measures the impact on student achievement of teachers from each preparation program. Controlling for student past performance and school environment, the model shows how much teachers certified by each program contribute to student learning.
    - The TNTP certification program approved by the State of Louisiana, known as the **Louisiana Practitioner Teacher Program (LPTP),** received the **highest possible rating for teacher effectiveness** in the core content areas of math and reading. Teachers certified through the LPTP outperformed new *and* experienced teachers in these areas. In math, LPTP teachers had a positive effect on achievement that outweighed the negative impact of student poverty.
    - In **English language arts** and **science**, the LPTP was rated "Level 2," meaning that teachers certified by LPTP have an effect on student achievement that "is more similar to experienced teachers than new teachers" in these areas. [3]

UTeach Statistics - UTeach Results at the University of Texas at Austin

- **Enrollment and Certification:** UTeach enrollment has grown to a steady state of almost 500 students. UTeach now certifies around 70 students each year to teach secondary mathematics, science or computer science.
- **STEM Content Preparation:** All UTeach graduates have taken at least 24 credit hours of mathematics or science content, and 85% earn mathematics or science degrees in their major
- **Hiring Statistics:** 92% of those certified are immediately hired as mathematics or science teachers
- **Retention:** 82% of UTeach graduate hires are still teaching after five years, compared with fewer than 65% nationally (Schools and Staffing Survey, 2004)
- **Equitable Distribution:** About 45% of UTeach graduates teach in schools where 40% or more of students qualify for free or reduced-price lunches.

[3] Noell, George H.; Porter, Bethany A.; Patt, R. Maria; and Dahir, Amanda (2008). Value Added Assessment of Teacher Preparation in Louisiana: 2007-2008 (Year 5). Department of Psychology, Louisiana State University.

Appendix D16: Sustained, Systematic, and Diverse Clinical Experiences

DEFINITIONS

Core principle #2 currently uses the phrase "…sustained and meaningful field-based experience…" This terminology focuses on the setting of professional experience rather than on the quality, content, or range of experiences in which teacher candidates participate.

The subgroup proposes terminology that uses broader language that encourages teacher preparation entities to develop and provide professional experiences that are directly tailored to the needs of the candidates they prepare. This terminology includes several critical concepts, including: "clinical," "systematic," "sustained," and "diverse."

Clinical: This term is intended to refer to specific and intentional professional activities that engage the candidate in a thoughtful (reflective) process of: (1) analyzing a particular professional situation (e.g., event, incident, problem); (2) developing reasonable methods by which the situation could be improved; (3) implementing one or more courses of professional action; and (4) examining the effectiveness of the actions.

Such experiences must include direct experience in field-based settings, but should not be limited to only immersion experiences. They may occur or be provided in on-campus, laboratory, P-12 schools, or other settings that engage teacher candidates to engage in professional practice that is most appropriate to their professional development and needs. The use of technology, simulation, cases, microteaching, or other controlled activities should be encouraged.

Systematic: The term refers both to the intentionality of experiences in which teacher candidates are engaged and to the organization of these experiences. For example, simply providing a specified number of hours in a field-based or clinical setting is insufficient. Rather, at each stage of a candidate's professional preparation, clinical activities or experiences should be designed and provided that are directly aligned with both the candidate's level of professional maturity and to the specific knowledge, skills, or values that are to be developed.

Clinical experiences should intentionally progress from controlled, and less complex situations or environments toward the full complexity for which every teacher must be prepared.

Sustained: This term refers to the extent to which specific clinical experiences are of sufficient duration to be meaningful and that such experiences are integrated throughout the teacher preparation program. From the beginning of a candidate's program through her or his completion of preservice preparation, the candidate must be routinely engaged in a range of clinical experiences that require the candidate to apply professional knowledge and to develop and enhance professional skills.

Collectively, these experiences should provide the candidate with the opportunity to develop and demonstrate the full repertoire of professional skills necessary to be an effective early career educator. However, each clinical experience should be sufficiently engaging to lead the candidate to apply, develop, or improve desired professional knowledge, skill, or dispositions.

Diverse: This term refers both to the types (forms) of experiences that are provided to teacher candidates and to the professional contexts in which they engage candidates. Teacher preparation should include a variety of clinical experiences that include but are not limited to field-based immersion experiences. Further, across these experiences, teacher candidates must be engaged in contexts that provide them with experience and understanding of varying school contexts (e.g., urban, rural, suburban), students (e.g., by race, ethnicity, ability, and need), pedagogical approaches or perspectives, and other factors that will influence their future professional practice.

Appendix D17: Legitimate Examination Definition

DEFINITION

Core principle #6 associated with Teacher Preparation Programs refers to "…legitimate examination of …candidates' ability to produce student learning" and implies that it is the responsibility of programs to ensure that they only recommend for certification/licensure those candidates who have demonstrated that they can, in fact, promote positive, measurable change in their students' learning. Because the stakes of this principle are high, both for teacher candidates and for preparation programs, the following supplemental definition or explanation is provided:

The principle is grounded on three fundamental and requisite elements:

1. Programs must develop processes by which valid, summative evaluation of each candidate's ability to affect positive, measurable student learning growth is conducted. Such evaluation would employ one or more measures that aligned with those used to calculate the Teacher Effectiveness Measure (TEM) or the value-added measure for teacher preparation institutions.
2. The evaluation process must be sufficiently rigorous that it effectively distinguishes between teacher candidates who can and do affect requisite student learning and those who do not.
3. Only candidates who have met the established standard or criterion level of student-learning are eligible to be recommended for licensure.

It may be that the principle could be reworded such that these supplemental definitions are unnecessary. For example, something like "Teacher preparation programs must develop and implement a summative evaluation process that discriminates between candidates who do affect sufficient student learning and those who do not, and only those candidates who have been deemed to do so are recommended for certification/licensure."

Appendix D18: State Partnership with Georgia Tech / CEISMC

Context

The Georgia Performance Standards (GPS) for mathematics and science are far-reaching in their potential for changing STEM student performance in Georgia. However effective implementation requires support on multiple fronts, including a) strengthening teachers' content understanding and pedagogical skills, b) providing contextualized tasks and STEM examples that effectively engage 21st Century learners, and c) providing students, especially those from groups underrepresented in STEM, with learning opportunities that encourage them to pursue advanced studies in STEM fields. Georgia Tech, lead by its outreach center, the Center for Education Integrating Science, Mathematics and Computing (CEISMC), is well positioned to play a major collaborative partnership role in the Georgia Race to the Top's STEM initiative. Georgia Tech has a first-rate track record for STEM education and research and in the use of distance learning, both for adult learning and advanced student instruction. (Georgia Tech is the #3 provider of distance learning engineering programs in the nation.)

In Georgia, a large number of students live in rural areas far removed from the urban centers of higher education. Many of these rural schools are unable to offer comprehensive upper-level courses, advanced placement courses, or highly technical vocational courses because of financial and human capital constraints. Teachers at these schools also have a very limited menu of professional development options open to them. As a result, these rural school districts often struggle to fully prepare students for advanced careers in STEM disciplines. Distance education—including the use of Internet and web-based materials, video-conferencing, computer conferencing, and multimedia modules—offers a solution to many of these problems that rural schools face.

Teacher Professional Development

Online Courses: Georgia Tech, through CEISMC, has actively participated in the Georgia Department of Education's Math/Science Partnership program from its inception, working with numerous school systems both in the metro-Atlanta area and also in more rural areas of the state. The CEISMC programs have been designed to increase teachers' depth of knowledge of mathematics and science content, to encourage the use of active learning pedagogical strategies, and to promote the integration of science, mathematics and technology. CEISMC also actively partners with the Georgia Tech Distance Learning and Professional Education (DLPE) office to provide long-term online teacher professional development for NASA, through the new Electronic Professional Development Network (ePDN) located at Georgia Tech (www.nasaepdn.gatech.edu). During 2010, the ePDN will provide courses in robotics, problem-based inquiry science, statistics, and online learning to over 500 teachers from around the nation and world. As part of the Race to the Top initiative, CEISMC will expand and leverage its online teacher professional development course offerings to develop and implement six 52-hr certificate programs in other 21st Century STEM areas, e.g. genetics/biotechnology, climate science, the chemical basis of nanotechnology, and the use of instructional technologies, specifically designed for Georgia teachers and aligned with the GPS.

Instructional Technology Toolkit: In support of the Instructional Technology online Professional Development certificate program CEISMC will develop an Instructional Technology Toolkit for administrators and teachers to support the effective use of technology in a standards-based classroom. CEISMC will expand the current GADOE digital library of resources and videos demonstrating "best practices" integrating classroom technology (laptops, student response systems, interactive whiteboard, digital probes, virtual manipulatives, graphing calculators, etc.) within the science and math GPS frameworks. These resources and videos of real-world applications of math and science will be developed in both English and Spanish for parents, teachers, and students in context of real world application examples focusing attention on STEM careers and the preparation required. Finally, a website will be created to support user submission and review of STEM related application videos by schools and outside organizations using low-cost equipment readily available in most schools.

Ultimately ongoing student creation of content for this resource will become a regular classroom learning task that sustains the project beyond the RT3 funding.

GIFT: The Georgia Intern-Fellowships for Teachers (GIFT) places primarily high school STEM teachers in mentored, paid, challenging STEM content summer internships in industry and university research laboratories. GIFT provides, to about 80 teachers each year, a real world immersion for 4 to 7 weeks in projects enriching their content experience first-hand through connections between classroom activities and meaningful applications. Teachers acquire an understanding of what a research experience is like, make use of the latest technology, and receive both research guidance and mentoring from STEM experts. RT3 funding will expand, by 25 teachers, the number of GIFT teachers placed each summer.

Providing Engaging and Rigorous STEM Contexts and Courses

Math4-OR: The new four year math and science requirements in the GPS have added depth and breadth to STEM education in Georgia and provide the opportunity to feature real STEM examples to inspire young learners. An example of Georgia Tech's involvement in this process is the new Operations Research (OR)-based mathematics course, developed by an Industrial and Systems Engineering (ISyE) professor from Georgia Tech's #1-ranked ISyE department, which students can take as their 4th high school math course as an alternative or complement to the pre-calculus and calculus courses. OR is a "mathematics for the real world" course in which students learn such applied practical mathematics skills as linear programming, inventory theory, scheduling theory, probability and statistics, queuing theory, and computer simulation. Students will be asked to apply those skills to useful and engaging problems such as humanitarian logistics, airplane scheduling, college selection, and optimal diet management.

Robotics/Engineering Design: As another example, Georgia Tech has been funded by the NSF to create and study a curriculum for 8th grade physical science that utilizes robotics and engineering design to teach the physics concepts in physical science and that inspires students from all demographic groups and achievement levels to continue to actively engage in STEM education. Georgia Tech also coordinates Georgia's First Lego League state competition, which in 2009 impacted more than 1,800 middle school students, 30% of whom were from under-represented ethnic groups, and works with schools to develop curricular connections to engineering and robotics. As part of the RT3 initiative, Georgia Tech will look to expand the use of engineering and robotics in middle schools, specifically within STEM classrooms.

Advanced Studies in STEM

Advanced STEM Courses: CEISMC, in collaboration with the Georgia Tech School of Mathematics and DLPE, has pioneered the use of live video conferencing to offer college-level advanced calculus to high school students who have successfully completed advanced placement (AP) calculus at their high school. In 2009-2010, 250 high school students are earning college credit for these courses. An equal number will be accepted for the next academic year, although the expectation is that there will be over 400 qualified applicants. With appropriate resources, 400 talented students could be reached and plans are being made to reach out beyond those schools and school systems already served. The Race to the Top initiative will expand the reach of the Distance Calculus program to additional school systems and to individual students in rural counties, and will investigate the feasibility of other advanced distance course offerings such as Computer Science, Introductory Engineering, or post-AP chemistry or physics.

Summary

CEISMC's contribution to the RT3 initiative will primarily be focused on teacher professional development. We will develop and implement six 52-hour 21st Century STEM online certificate programs in collaboration

with DLPE and aligned with our NASA ePDN initiative, that will reach 900 teachers over the 4-year grant period. We will also offer teacher professional development through the GIFT program (100 additional teachers), and will prepare teachers to implement innovative robots/pre-engineering programs at ten middle schools per year (reaching about 10,800 students), and offer the Math 4—Operations Research alternative course to at least 3000 students per year. RT3 will also increase the number of high achieving high school students taking Georgia Tech's Distance Calculus II and III classes by at least 600 students. We will focus on high free and reduced lunch schools and Title I schools, especially for the Operations Research and middle school engineering/robotics projects.

Appendix D19: Teacher Induction Program Preliminary State Guidelines

Operational Definition: Teacher induction programs are programs that provide comprehensive, aligned, and sustained training and support for new and veteran educators that support the growth and professional development of educators new to the profession or organization so that their work results in increased student achievement.

Four Pillars of Induction Programs: Teachers new to the profession or organization experience three concurrent learning curves that could impact their ability to drive student achievement. These learning curves are associated with learning the culture, pedagogy, strategic initiatives and operations of the profession/organization.

I. Culture:

- Learning the organizations norms, beliefs, values
- Learning the vision and mission of the organization
- Learning the cultural underpinnings of the community stakeholders (parents, community organizations, etc)

II. Pedagogy:

- Learning and executing on the most foundational elements/teachers actions required to ensure student achievement (these should be taken from the TES rubric) – e.g. Long-term planning, assessments, vision for student achievement/ student achievement goals/targets, etc

III. Content/Strategic Initiatives:

- Aligning new hires to the strategic priorities of the state/district/school (i.e. literacy programs, reform models, etc).
- curriculum, assessment, standards, pacing guides, etc

IV. Operations:

- How things work in an organization (hiring paperwork, technology, resource allocation/requests, educational programs, teacher evaluation, leadership and career mapping, etc).

Division of Responsibility: The **State** will be provide a framework for teacher induction that outlines standards around the four pillars of teacher induction – culture, pedagogy, strategic initiatives and operations. The **District** will be responsible for constructing/executing a teacher induction program that is aligned to the State's framework and standards for effective teacher induction programs. The **School** will be responsible for constructing/executing a school specific teacher induction program that is aligned to the State's framework and standards for effective teacher induction programs.

Additional Consideration: Effective Induction Programs need to: (a) Differentiate for novice and veteran; (b) accommodate varying levels of teacher effectiveness; and (c) recognize school environment (high-need, high-poverty, high-minority, etc.).

Appendix E1: SBOE Accountability Rules.

Code: DFBA

160-5-2-.02 WITHHOLDING OF FUNDS FROM LOCAL UNITS OF ADMINISTRATION.

(1) **REQUIREMENTS.**

(a) If a local unit of administration fails to comply with provisions of law, rules, regulations, or terms of any contract with the state board, the state board may at its discretion withhold all or part of the state-contributed Quality Basic Education (QBE) program funds allotted to that local unit until full compliance is met by the local unit.

(b) In the absence of federal regulations specifying procedures for withholding federal funds, the state board shall adhere to these rules when authorized to withhold federal funds.

(2) **PREHEARING PROCEDURE.** Before the state superintendent of schools informs the State Board of Education that a local unit of administration is in noncompliance with any law, rules, regulations, standards, requirements or the terms of any contract for purposes of withholding state funds or federal funds, where applicable, the following procedures shall be followed.

(a) The state school superintendent or designee shall inform the local unit of administration of the specific areas of noncompliance.

(b) The local unit of administration shall have 30 calendar days from the date of notification to submit evidence of resolution to the department.

(c) If the noncompliance issue is not resolved by the end of the 30 days, the state school superintendent or designee shall so inform the local unit of administration that a recommendation to withhold will be forwarded to the State Board of Education with the specific areas of noncompliance of the particular local unit of administration noted.

(d) The state school superintendent shall inform the state board when any local unit of administration fails to comply with any provisions of law, rules, regulations, or terms of any contract with the state board if the noncompliance issue is not resolved, and shall recommend that the state board withhold state funds totally or in part until the local unit of administration complies.

(e) Should the state board exercise its discretion to withhold a portion or all of the state QBE funds from the local unit of administration, the board, through the state school superintendent's office, shall inform the local unit of administration of the board's intention to withhold funds at least 30 days prior to the intended date of withholding funds.

160-5-2-.02 (Continued)

(f) The local unit of administration shall be informed in writing of the areas of noncompliance and which funds are going to be withheld. The letter shall also state that the local unit of administration is entitled to a hearing on the matter according to the provisions of paragraph (3) of this rule, provided the local unit of administration requests a hearing within 30 calendar days of receipt of the notification.

(g) Should the board of the local unit of administration invoke the appeals procedure, no funds shall be withheld until all appeals have been exhausted.

(3) **HEARING PROCEDURE.**

(a) The State Board of Education assumes original jurisdiction in matters of this nature. The vice chairperson for appeals or a hearing officer employed by the state board shall be responsible for conducting hearings before the state board and shall acquaint the members of the state board with the matter to be considered.

(b) The local unit of administration shall submit within 30 calendar days a written request to the state school superintendent that a hearing be held before the State Board of Education. The request shall distinctly specify the question in dispute and the reasons for the dispute.

(c) Upon receipt of the request for a hearing, the state school superintendent shall determine whether the request is in proper form for hearing by the state board. The state school superintendent may procure the assistance of the Georgia Attorney General and the State of Georgia, Department of Law in making this determination. If the appeal is found to be in proper form for hearing, it shall be docketed and placed on the calendar for hearing before the state board at the earliest practical time, and the claimant shall be notified by mail of the time and place of hearing.

(d) At the hearing, all witnesses shall be sworn in by the vice chairperson or any member of the board or its attorney. The state board shall cause the testimony and other evidence to be transcribed by a court reporter or other appropriate means. All witnesses sworn and testifying shall be subject to reasonable cross-examination, but the strict rules of evidence prevailing in courts of law shall not be applicable to hearings before the state board.

(e) Following action by the state board, the vice chairperson for appeals or the hearing officer shall draft the ruling of the state board and furnish copies to the claimant.

(f) The State Board of Education shall render its decision within 25 calendar days from the date of the first board meeting following the date of the hearing or 10 days after the hearing when funds are being withheld pursuant to provisions of the Individuals with Disabilities Education Act (IDEA).

Appendix E1: SBOE Accountability Rules.

160-5-2-.02 (Continued)

(4) **NONCOMPLIANCE WITH RULES.**

(a) Failure to comply with any of the provisions of these rules relating to a hearing will be grounds for dismissal of the hearing.

(b) If the local unit of administration feels aggrieved by the final decision of the state board following such hearing, the local unit of administration shall have the right to obtain judicial review of such decision in accordance with the requirements of O.C.G.A. § 20-2-243.

(5) **SEPARABILITY**. The provisions of this rule are hereby declared to be separable, and the invalidation of any sentence, section or part hereof shall not affect or invalidate any other sentence, section or part thereof.

Authority O.C.G.A. § 20-2-240; 20-2-242; 20-2-243.

Adopted: September 12, 2002 **Effective: October 2, 2002**

Code: IAB(1)

160-7-1-.01 SINGLE STATEWIDE ACCOUNTABILITY SYSTEM.

(1) The State Board of Education shall approve a Single Statewide Accountability System, with awards and consequences, as defined in this chapter and consistent with state and federal law.

(2) The Single Statewide Accountability System shall include an annual Accountability Profile for every public school and Local Educational Agency (LEA) in the state. The Accountability Profile shall have three components: an absolute performance determination that shall be based on Adequate Yearly Progress, a Performance Index determination that shall be based on progress over the previous year's performance, and Performance Highlights that will provide additional information including recognition for each school and LEA based on academic-related indicators. The components of the Accountability Profile will be included in the State Report Card prepared and distributed annually by the Office of Student Achievement.

(3) The purpose of the Single Statewide Accountability System includes, but it is not limited to, providing valid, reliable accountability determinations at the school, LEA, and state levels that can help promote continuous improvement in raising student achievement and closing achievement gaps.

Authority O.C.G.A. § 20-14-26; 20-14-34; 20-14-37; 20-14-41.

Adopted: July 14, 2005 **Effective: August 4, 2005**

Appendix E1: SBOE Accountability Rules.

Code: IAB(2)

160-7-1-.02 ACCOUNTABILITY SYSTEM DEFINITIONS.

(1) Accountability Plan - information presented annually by December 31 by the Office of Student Achievement to the State Board of Education describing the methodology used to determine the components of the Accountability Profile to be included in the State Report Card.

(2) Accountability Profile - a publicly disseminated report that provides a summary of a school's and local educational agency's (LEA's) performance as defined by the Single Statewide Accountability System (SSAS) and included in the State Report Card.

(3) Adequate Yearly Progress (AYP) - a component of the Accountability Profile based on a series of performance goals that every school, LEA, and state must achieve within specified timeframes in order to meet the 100% proficiency goal established by the federal No Child Left Behind Act of 2001(NCLB).

(4) AYP Workbook - the document that is officially known as the *Consolidated State Application Accountability Workbook.* Each state annually submits to the United States Department of Education (US ED) its workbook describing how AYP determinations will be calculated and how the state will comply with the No Child Left Behind Act of 2001. Updates to the AYP Workbook reflect the state's response to feedback from Georgia education stakeholders, analysis of academic-related data, and changes in state curriculum and assessments, state law, and federal legislation and/or guidance/regulations from US ED.

(5) Contract-Managed School - a school subject to interventions as provided in the Management Contract with the LEA. The Contract-Managed School will implement intervention strategies in the Management Contract and will be monitored and evaluated on an ongoing basis by the LEA and GDOE.

(6) Contract-Monitored School - a school subject to interventions as provided in the Improvement Contract with the LEA. The Contract-Monitored School will implement intervention strategies in the Improvement Contract and will be monitored and evaluated on an ongoing basis by the LEA and GDOE.

(7) Criterion-Referenced Competency Tests (CRCT) - state-required tests to measure student acquisition of the knowledge and skills set forth in the state curriculum. Georgia law requires that these tests be administered to students in grades one through eight in the content areas of reading, English/language arts, and mathematics, and in grades three through eight in science and social studies.

160-7-1-.02 (Continued)

(8) Elementary and Secondary Education Act (ESEA) - the federal education statute, originally passed by the U. S. Congress in 1965, that defines the role of the federal government in public education and authorizes many of the major federal education programs, including Title I. This Act has been reauthorized by Congress several times, most recently in 2001 as the No Child Left Behind Act.

(9) Enhanced Georgia High School Graduation Tests - Georgia High School Graduation Tests (GHSGT) for English/language arts and mathematics were enhanced to comply with the No Child Left Behind Act of 2001 requiring more rigorous examinations. For accountability purposes, Enhanced GHSGT results from first time test takers in the eleventh grade for English/language arts and mathematics are used in making AYP determinations at school, LEA, and state levels.

(10) Georgia Alternate Assessment (GAA) - an assessment based on an Individualized Education Program (IEP) that reports progress toward achievement of targeted goals for students participating in an alternate curriculum and who are unable to participate in state-mandated assessments even with maximum accommodations.

(11) Georgia Department of Education (GDOE) - the state agency charged with the fiscal and administrative management of certain aspects of K-12 public education, including the implementation of federal and state mandates. Such management is subject to supervision and oversight by the State Board of Education.

(12) Georgia High School Graduation Tests (GHSGT) - state-mandated curriculum-based assessments administered in grade eleven for graduation purposes. The tests are administered several times a year so that students have up to five opportunities to take each of the tests within their eleventh and twelfth grade years.

(13) Improvement Contract - a contract between the LEA and State Education Agency (SEA) outlining an LEA's commitment to implement interventions for schools subject to escalating consequences.

(14) Instructional Coach – a certified teacher or administrator, with a record of raising academic achievement of students, who is designated to work with schools identified as Needs Improvement and subject to escalating consequences.

(15) Instructional Extension - a state-funded academic instructional program designed for implementation beyond the regular school day to address the academic needs of low-performing students.

(16) Leadership Facilitators - individuals assigned by the GDOE to specific schools on a long-term basis. Based on student achievement data, they advise, mentor, and provide feedback to school administrators in mobilizing and leading school staff to implement required plans, actions, and changes to improve student academic performance. The Leadership Facilitators also will assist administrators and teacher leaders in school improvement processes that produce high levels of learning for all students.

Appendix E1: SBOE Accountability Rules.

160-7-1-.02 (Continued)

(17) Local Educational Agency (LEA) - local school system pursuant to local board of education control and management.

(18) LEA Corrective Action Plan - an addendum of a LEA Improvement Plan required of all LEAs that reach Needs Improvement Year 3. The Corrective Action Plan is to be written in accordance with the No Child Left Behind Act of 2001, section 1116, and approved by the State Board of Education for a minimum of a two-year period.

(19) LEA Improvement Plan - a document developed by a LEA, and approved by the State Board of Education, to serve as a blueprint for guiding the LEA's continuous improvement and progress toward identified LEA, school, and student achievement objectives and targets.

(20) LEA Support Specialist – a certified administrator, appointed by the GDOE to manage and approve the financial, personnel, and program resources of schools identified as Needs Improvement and subject to escalating consequences.

(21) Management Contract - a contract between the LEA and SEA for schools classified as a State-Monitored School that outlines a school's and LEA's commitment to implement identified interventions with the assistance of the GDOE.

(22) Needs Improvement - an identification for a school or LEA that has not made AYP for two or more consecutive years in the same subject for schools and in the same subject for both elementary and secondary school grade spans for LEAs.

(23) No Child Left Behind Act of 2001 (NCLB) - a reauthorization of the Elementary and Secondary Education Act of 1965 - the principal federal law affecting education from kindergarten through high school. NCLB is designed to improve student achievement and close achievement gaps. States are required to develop challenging academic standards, to educate all students to 100 percent proficiency by 2014, and to create and implement a single, statewide accountability system.

(24) Office of Student Achievement (OSA) - the state agency mandated by state law to create a uniform performance-based accountability system for K-12 public schools that incorporates both state and federal mandates, including student and school performance standards. Additionally, OSA is charged with the responsibility of publishing the State Report Card for schools and LEAs and to formulate a system of awards and consequences within the Single Statewide Accountability System.

(25) OSA Audit – an investigation into evidence of non-compliance regarding identified interventions pursuant to SBOE Rule160-7-1-.04 Accountability System Awards and Consequences. OSA audits may also include a review of school and/or LEA performance and fund accounting information and records.

160-7-1-.02 (Continued)

(26) Performance Highlights - a component of the Accountability Profile that utilizes data from the State Report Card to recognize each school and LEA for top indicators based on key variables related to student achievement.

(27) Performance Index - a measure of a school's or LEA's current year academic achievement or gain over the previous year's performance based on results from all CRCT subjects and grades and the English/language arts, math, science, and social studies GHSGT results for first time test takers in the eleventh grade. The Performance Index calculations are based on schools with the greatest gains and on schools with the highest percentage of students meeting and exceeding standards.

(28) Principal Master – a certified administrator, with a record of raising academic achievement of students and schools, who is designated to work with schools identified as Needs Improvement Year 6 or more.

(29) Regional Education Service Agency (RESA) - a state agency established to improve the effectiveness of educational programs and services to LEAs through the provision of certain shared services to those LEAs.

(30) Regional Support Teams - teams, led by the GDOE, responsible for coordinating the statewide, coherent, and sustained system of assistance and support for schools and LEAs not meeting specified levels of achievement or progress.

(31) Safe Harbor - the last step in determining AYP status if the confidence interval approach and multi-year averaging do not enable a group of students (referred to hereinafter as "subgroup") to make AYP. To make Safe Harbor, a subgroup must decrease the percent of students not meeting proficient/advanced levels by 10% from the previous year. The subgroup must also meet the additional academic indicator requirement.

(32) School Corrective Action Plan - an addendum of a School Improvement Plan required of all schools that reach Needs Improvement Year 3. The Corrective Action Plan is written collaboratively by the LEA and the school in accordance with the No Child Left Behind Act of 2001, section 1116, and approved by the local board of education for a minimum of a two-year period.

(33) School Improvement Fieldbook - a guide, published by the GDOE, to assist with school improvement planning and implementation of focused, research-based strategies to increase the opportunity for schools to make AYP. It is designed for use by all Georgia educators and schools as a tool to clarify and explain the requirements of NCLB and Georgia's Single Statewide Accountability System.

(34) School Improvement Plan - a document developed by a school and approved by the LEA to serve as a blueprint for guiding the school's continuous improvement and progress toward identified student achievement objectives and targets.

Appendix E1: SBOE Accountability Rules.

160-7-1-.02 (Continued)

(35) School Performance Review - a GDOE initiated review and analysis of a school's student academic performance data to determine school improvement interventions.

(36) School Restructuring Plan - an addendum of the School Improvement Plan and Corrective Action Plan required of all schools that reach Needs Improvement Year 4. The School Restructuring Plan is written and implemented collaboratively by the LEA and the school in accordance with the No Child Left Behind Act of 2001, section 1116, and approved by the GDOE.

(37) Scientifically-based research - research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs. Such research must (1) employ systematic, empirical methods that draw on observations or experiments; (2) involve rigorous data analysis to support hypothesis testing and to justify conclusions drawn; (3) rely on reliable and valid measurement or observation methods; (4) be evaluated using experimental and quasi-experimental designs; (5) ensure completeness, clarity, and level of detail to allow for replication and generalization; and (6) have been accepted by a peer-reviewed journal or approved by an independent panel of experts through a comparable rigorous, objective, and scientific review.

(38) Single Statewide Accountability System (SSAS) - the statewide accountability system defined by OSA and adopted by the State Board of Education that includes indicators reflecting both absolute and progress determinations. The SSAS merges both federal and state education laws that relate to K-12 school accountability for student academic performance. For purposes of defining Georgia's SSAS, the absolute component shall be based on the federal AYP determination. The performance component shall be based on the Performance Index that reflects a school's progress over the prior year on indicators identified by OSA that will result in a corresponding award category. In addition, the Accountability Profile shall incorporate a listing of Performance Highlights that captures a school's and LEA's top academic-related indicators based primarily on State Report Card data.

(39) State Board of Education (SBOE) - the constitutional authority which defines education policy for the public K-12 education agencies in Georgia.

(40) State Educational Agency (SEA or State) - the Georgia State Board of Education. The State Superintendent of Schools implements the administrative functions on behalf of the Georgia State Board of Education.

(41) State Report Card - the official report card for Georgia's K-12 public schools that includes an annual report prepared by OSA for each school, system, and the state, which is widely disseminated for use by educators, parents, and the general public. The State Report Card contains student and school performance information based on the most current data available disaggregated by student groups.

160-7-1-.02 (Continued)

(42) Student Record - an annual record that provides cumulative information about a student for the school year, such as education history and demographics. This information contains LEA, school, and student level data that can be used for both state and LEA reporting and analysis.

(43) Supplemental Educational Services (SES) - additional academic instruction provided outside the regular school day that is designed to increase the academic achievement of students in low-performing schools. (State Board of Education Rule 160-4-5-.03 Supplemental Educational Services.)

(44) System Performance Review - a GDOE initiated review and analysis of a LEA's student and school academic performance data to help determine school and LEA improvement interventions.

(45) Title I - the federal Elementary and Secondary Education Act program that focuses on improving the academic achievement of the disadvantaged by ensuring that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging state academic standards and state academic assessments.

Authority O.C.G.A. § 20-2-11; 20-2-270.1; 20-2-281; 20-14-26; 20-14-30; 20-14-31; 20-14-33; 20-14-34; 20-14-37.

Adopted: July 14, 2005 **Effective: August 4, 2005**

Appendix E1: SBOE Accountability Rules.

Code: IAB(3)

160-7-1-.03 ACCOUNTABILITY PROFILE.

(1) Each public school and LEA shall receive an annual Accountability Profile, as defined in this section and consistent with state and federal law, that shall constitute the state's accountability determination. The Accountability Profile will be included in the State Report Card for Georgia's K-12 public schools.

(2) Accountability Plan.

(a) Each year, the State Board of Education shall approve an annual Accountability Plan, presented by the Office of Student Achievement (OSA), that shall include detailed information regarding the Accountability Profile, which includes AYP requirements. Such information shall include the methodology that will be used to determine each component of the Accountability Profile and how the Accountability Profile will inform decisions regarding awards and consequences. The Accountability Plan shall be designed to promote valid and reliable accountability determinations, based on available data and within the capacity of state and local data collection systems.

(3) Adequate Yearly Progress.

(a) Each Accountability Profile shall include an Adequate Yearly Progress (AYP) determination, as required by the No Child Left Behind Act of 2001 (NCLB), which shall be based primarily on the main administration of state assessments in mathematics and reading/language arts that have been developed consistent with nationally recognized professional and technical standards and are supported by evidence regarding validity and reliability for AYP purposes. The state assessments used in AYP determinations include the Georgia Criterion Referenced Competency Tests in reading and English/language arts combined and mathematics for elementary and middle schools, the Enhanced Georgia High School Graduation Tests in English/language arts and mathematics for high schools, and the Georgia Alternate Assessment for students who have the most severe cognitive impairments and who can not meaningfully participate in the regular assessments.

(b) In order to make AYP, schools, LEAs, and the state must:

1. Demonstrate that at least 95 percent of students (overall and for relevant subgroups) participated in the state assessments; AND

2. Meet or exceed the state's annual measurable objectives for the percentage of students scoring proficient or above on the state assessments (overall and for relevant subgroups) or demonstrate Safe Harbor; AND

3. Show progress on an additional academic indicator, that shall be Graduation Rate for High Schools and an indicator selected by LEAs from a menu provided by OSA for Elementary and Middle Schools including for subgroups where Safe Harbor is applied.

(c) In Georgia, the AYP subgroups are the race/ethnic categories of American Indian/Alaskan Native, Asian/Pacific Islander, Black, Hispanic, White, and Multi-racial; students with disabilities; limited English proficient students; and economically disadvantaged students. Any subgroup that meets Georgia's minimum number of membership will be utilized to determine the AYP status for a school, LEA, or state as defined in Georgia's AYP workbook. Migrant and gender subgroup information is included in the State Report Card for reporting purposes only and are not included in AYP determinations.

(d) Each year, the SBOE shall adopt and submit to US ED for approval, after opportunity for public notice and comment, OSA's plan for determining AYP pursuant to this rule under this section for the given school year, including the specific methodology that will be used to ensure the most valid and reliable AYP determinations are made, in a manner consistent with state and federal law.

(4) Performance Index.

(a) Each Accountability Profile shall include a Performance Index determination, based on a school's progress over the previous year's performance in improving student achievement on state assessments. Performance Index calculations will be based on results from all CRCT subjects and grades and the English/language arts, math, science, and social studies GHSGT results for first time test takers in the eleventh grade. Performance Index shall be based on either schools with the greatest gains in the percentage of students meeting and exceeding standards or on schools with the highest percentage of students meeting and exceeding standards.

(5) Performance Highlights.

(a) Each Accountability Profile shall include a component for Performance Highlights composed of data regarding key variables related to student achievement. Information collected from the State Report Card data will be used to provide recognition for schools and LEAs based on a school's and LEA's top academic-related performance.

Appendix E1: SBOE Accountability Rules.

160-7-1-.03 (Continued)

(6) Data Verification and Appeals.

(a) The verification process involves an interactive student record collection process that will allow LEAs to review LEA- and school-level data that will be used to compile the Accountability Profiles, including AYP determinations.

(b) Preliminary AYP data along with school and LEA-level data that contribute to the Accountability Profile shall be released to LEAs for review before final AYP determinations are made and before Accountability Profiles are released. Superintendents will certify that the Student Record, the preliminary AYP data, and the Accountability Profile data are accurate. If the LEA believes that the preliminary data and/or proposed identification are in error for statistical or other substantive reasons, the LEA may provide evidence to OSA for consideration prior to making a final AYP determination or Accountability Profile report.

(c) LEAs may appeal to OSA final AYP determinations and Accountability Profile reports based on extraordinary circumstances and consistent with guidance developed and provided by OSA.

Authority O.C.G.A. § 20-14-26; 20-14-30; 20-14-33.

Adopted: July 14, 2005 **Effective: August 4, 2005**

Code: IAB(4)

160-7-1-.04 ACCOUNTABILITY SYSTEM AWARDS AND CONSEQUENCES.

(1) Awards.

(a) Each public school shall be eligible for Awards based on its Accountability Profile, including primarily its Performance Index determination. Awards may include public recognition, increased flexibility, with regard to state or federal requirements (to the extent permitted under state and federal law), and financial awards (subject to appropriation). Detailed information regarding Awards and criteria for Awards shall be included in the Accountability Plan presented annually to the State Board of Education, described in Rule 160-7-1-.03 Accountability Profiles.

(2) School-Level Consequences.

(a) In accordance with state and federal law, each public school identified as Needs Improvement shall be subject to consequences designed to help improve student achievement based on its Adequate Yearly Progress (AYP) determination. The Accountability Profile and Georgia Department of Education (GDOE) guidance will inform the nature and degree of the required improvement plans (i.e., school improvement, corrective action, or restructuring). The GDOE shall provide, in accordance with the NCLB Act of 2001, section 1117 (a), a system of intensive and sustained support and improvement for LEAs and schools identified as Needs Improvement.

1. A school shall be identified as in Needs Improvement status if the school has not made AYP in the same subject for two consecutive years.

2. A school shall be removed from Needs Improvement status if the school has made AYP for two consecutive years.

3. Escalation in levels of Needs Improvement status shall be based on the school's failure to make AYP in the same subject for two or more consecutive years. A school that fails to make AYP, but does not fail to make AYP in the same subject for two consecutive years, will remain in its existing Needs Improvement status for the following school year. A school that makes AYP for one year will also remain in its existing Needs Improvement status for the following year.

4. Pursuant to recommendations of the School Performance Review and needs assessment conducted by the GDOE, schools identified as Needs Improvement 7 or beyond may be, at any time, subject to escalating consequences to include, but are not limited to, an Improvement Contract, pursuant to paragraph (g) (2), or a Management Contract, pursuant to Section (i) (2).

5. The LEA must promptly notify parents of each student enrolled in such schools of the school's classification. The notice must be in an understandable and uniform format and, to the extent practicable, in a language that parents understand. Additionally, it must honor the privacy of all students and their families. The notice must include:

(i) An explanation of a school's status under this rule and the school's performance relative to other schools in the LEA and the state.

(ii) Reasons the school is identified for improvement.

(iii) An explanation of actions by the school to improve student achievement.

(iv) An explanation of what the LEA and/or the GDOE are doing to improve student achievement.

(v) An explanation regarding the means for parent involvement in issues which contributed to the school's failure to make AYP.

6. The LEA shall provide technical assistance to the school identified as Needs Improvement.

(b) Needs Improvement Year 1. A school that has not made AYP for a period of two consecutive years in the same subject shall be identified as **Needs Improvement Year 1** and shall be subject to the following requirements:

1. The school shall develop, no later than 3 months after being identified as Needs Improvement, a School Improvement Plan. The School Improvement Plan shall be for a minimum of a two-year period. The plan shall be subject to a peer review process by the LEA within 45 days of receipt, shall be coordinated by the LEA, shall be approved by the local board of education, and shall be made available to the GDOE upon request. The School Improvement Plan shall meet the requirements of NCLB Act of 2001, section 1116, as applicable and as provided in the GDOE School Improvement Fieldbook. The school shall implement the School Improvement Plan upon approval by the LEA.

2. The LEA shall provide students enrolled in the school the option to transfer to another public school that has not been identified as Needs Improvement within the LEA.

(i) LEAs shall provide or ensure transportation to students exercising the option to transfer to another public school in the LEA that has not been identified as Needs Improvement. For the 2004-05 school year and any subsequent year in which the legislature does not appropriate funds for the provision of transportation to non-Title I

students exercising the option to transfer to another public school pursuant to this rule, the parent or guardian assumes responsibility for the transportation of that student. The LEA shall provide transportation for students transferring from Title I schools in accordance with federal law.

(ii) For students transferring from non-Title I schools, the LEA is not required to exceed facility capacity when determining school choice options and shall give priority to the lowest achieving students. For students transferring from Title I schools, the LEA may not use lack of capacity to deny school choice to those students.

(c) Needs Improvement Year 2. A school identified as **Needs Improvement Year 2** pursuant to paragraph (2)(a)(3) shall be subject to all consequences applicable to schools in Needs Improvement Year 1 as well as to the following requirement:

1. The LEA shall offer students enrolled in the school access to instructional extension services in accordance with SBOE Rule 160-4-2-.14 Instructional Extension prioritizing the school's lowest achieving students. For Title I schools, Supplemental Educational Services shall be provided in accordance with federal law and State Board of Education Rule 160-4-5-.03 Supplemental Educational Services.

(d) Needs Improvement Year 3. A school identified as **Needs Improvement Year 3** pursuant to Section (2)(a)(3) shall be subject to all consequences applicable to schools in Needs Improvement Year 2 as well as to the following requirements:

1. The LEA shall develop and implement, no later than 3 months after being identified for corrective action, a School Corrective Action Plan. The Corrective Action Plan shall be approved by the local board of education, and shall be made available to the GDOE. The School Corrective Action Plan shall be in accordance with content, format, and procedures developed and disseminated by the GDOE in the GDOE School Improvement Fieldbook. The school shall implement the School Corrective Action Plan upon approval by the LEA. The LEA shall select at least one corrective action from the following:

(i) Replace the school staff who are relevant to the school not making AYP.

(ii) Institute and fully implement a new curriculum, including providing appropriate professional learning opportunities that are grounded in scientifically-based or evidence-based research and offer substantial promise of improving educational achievement for low-achieving students.

(iii) Significantly decrease management authority at the school level.

Appendix E1: SBOE Accountability Rules.

160-7-1-.04 (Continued)

(iv) Appoint an outside expert to advise the school on its progress toward meeting required achievement targets.

(v) Extend the school year and/or school day for the school.

(vi) Restructure the internal organizational arrangement of the school.

(e) Needs Improvement Year 4. A school identified as **Needs Improvement Year 4** pursuant to paragraph (2)(a)(3) shall be subject to all consequences applicable to schools in Needs Improvement Year 3 as well as to the following requirements:

1. The LEA shall continue to implement the corrective action selected the previous year.

2. The LEA shall develop a plan to restructure the governance arrangement of the school and shall assure that the School Restructuring Plan is received by the GDOE no later than six months after the school is identified for improvement and restructuring. The School Restructuring Plan shall be implemented for a minimum of a two-year period, shall be subject to a peer review process coordinated by the GDOE, and shall be approved by the GDOE. The School Restructuring Plan shall meet the requirements of NCLB Act of 2001, section 1116, as applicable and as provided in the GDOE School Improvement Fieldbook. The LEA shall implement the plan no later than the beginning of the school year in which the LEA/school is identified as Needs Improvement Year 5. The LEA shall include in its plan at least one of the restructuring options from the following:

(i) Reopening the school as a public charter school.

(ii) Replacing all or most of the school staff (which may include the principal) who are relevant to the school not making AYP.

(iii) Entering into a contract with an entity, such as a private management company, with a demonstrated record of effectiveness, to operate the public school.

(iv) Any other major restructuring of the school's governance arrangement that makes fundamental reforms, such as significant changes in the school's staffing and governance, to improve student academic achievement in the school and that has substantial promise of enabling the school to make AYP.

(f) Needs Improvement Year 5. A school identified as **Needs Improvement Year 5** pursuant to paragraph (2)(a)(3) shall be subject to all consequences applicable to schools in Needs Improvement Year 4 in addition to the requirement that the LEA begin implementing the restructuring plan developed and approved the previous year.

160-7-1-.04 (Continued)

(g) Needs Improvement Year 6. A school identified as **Needs Improvement Year 6** pursuant to paragraph (2)(a)(3) shall continue to implement the Restructuring Plan. The LEA and GDOE, through ongoing monitoring and evaluation, will determine appropriate updates and revisions to the Restructuring Plan during this second year of implementation.

1. The LEA and Needs Improvement Year 6 school shall be subject to a School Performance Review and needs assessment conducted by the GDOE. The GDOE School Performance Review team will make recommendations to the State Board of Education regarding school-level and/or LEA-level interventions needed to address the findings from the School Performance Review.

2. The Improvement Contract, outlining the LEA's commitment to implement the identified interventions with assistance from the GDOE, will be developed and signed by the LEA superintendent, the local board of education chair, the State Superintendent, and the State Board of Education chair. Failure of the LEA to enter into the Improvement Contract pursuant to this rule will result in a referral to the Office of Student Achievement (OSA) for non-compliance. The Improvement Contract must be implemented no later than the beginning of the school year the school is identified in Needs Improvement Year 7. The Improvement Contract shall be in effect for a minimum of a two-year period and shall be subject to ongoing review and evaluations conducted by the GDOE. The Improvement Contract shall be developed in accordance with content, format, and procedures developed and disseminated by the GDOE.

3. School-level interventions may include, but are not limited to the removal of personnel at the school level relevant to the school not making AYP; appointment of a Principal Master and/or Instructional Coach; management of the school budget; and utilization of Georgia Performance Standards (GPS) Learning Frameworks and nine-week Progress Monitoring.

4. LEA-level interventions may include, but are not limited to the removal of personnel at the LEA level relevant to the school not making AYP; appointment of an LEA Support Specialist to manage and approve the financial, personnel, and program resources of the school; redirection of resources (state and federal) to support improvements; plan for a local conversion charter.

(h) Needs Improvement Year 7. A school identified as **Needs Improvement Year 7** pursuant to paragraph (2)(a)(3) shall be classified as a Contract-Monitored School and shall implement the interventions outlined in the Improvement Contract developed and agreed upon no later than the beginning of the school year. The LEA and GDOE, through ongoing monitoring and evaluation, will determine appropriate amendments and revisions to the Improvement Contract during this first year of implementation to be approved by the State Board of Education.

160-7-1-.04 (Continued)

(i) Needs Improvement Year 8. A school identified as **Needs Improvement Year 8** pursuant to paragraph (2)(a)(3) shall remain classified as a Contract-Monitored School and shall be subject to all consequences applicable to schools in Needs Improvement Year 7. The LEA and GDOE, through ongoing monitoring and evaluation, will determine appropriate updates and revisions to the Improvement Contract during this second year of implementation to be approved by the State Board of Education.

1. The LEA and Needs Improvement Year 8 school shall be subject to a System Performance Review and needs assessment conducted by the GDOE. The GDOE System Performance Review team will make recommendations to the State Board of Education regarding school-level and/or LEA-level interventions needed to address the findings from the System Performance Review.

2. The Management Contract, outlining the commitment to implement the identified interventions with assistance from the GDOE, will be developed and signed by the LEA superintendent, the local board of education chair, the State Superintendent, and the State Board of Education chair. Failure of the LEA to enter into the Management Contract pursuant to this rule will result in referral to OSA for non-compliance. The Management Contract must be implemented no later than the beginning of the school year the school is identified in Needs Improvement Year 9. The Management Contract shall be in effect for a minimum of a two-year period and shall be subject to ongoing review and evaluations conducted by the GDOE. The Management Contract shall be developed in accordance with content, format, and procedures developed and disseminated by the GDOE.

3. School-level interventions may include, but are not limited to school closure; mandated charter school; complete reconstitution of the school; site-based expenditure controls; specified maximum class sizes.

4. LEA-level interventions may include, but are not limited to a decrease of management authority for the superintendent and local board of education; assignment of a management team to operate all or part of the LEA; restructuring of the LEA's governance arrangement.

(j) Needs Improvement Year 9. A school identified as **Needs Improvement Year 9** pursuant to paragraph (2)(a)(3) shall be classified as a Contract-Managed School and shall be subject to all consequences applicable to schools in Needs Improvement Year 8. The LEA and GDOE, through ongoing monitoring and evaluation, will determine appropriate amendments and revisions to the Management Contract during this first year of implementation to be approved by the State Board of Education.

(k) Needs Improvement Year 10. A school identified as **Needs Improvement Year 10** pursuant to paragraph (2)(a)(3) shall remain classified as a Contract-

160-7-1-.04 (Continued)

Managed School and shall be subject to all consequences applicable to schools in Needs Improvement Year 9. The LEA and GDOE, through ongoing monitoring and evaluation, will determine appropriate amendments and revisions to the Management Contract during this second year of implementation to be approved by the State Board of Education.

(3) LEA-Level Consequences.

(a) Each LEA identified as Needs Improvement shall be subject to consequences designed to help improve student achievement based on its AYP determination. The Accountability Profile and GDOE guidance will inform the nature and degree of the required improvement plans. The GDOE shall provide assistance to LEAs identified as Needs Improvement.

1. An LEA shall be identified as in Needs Improvement status if the LEA has not made AYP in the same subject for two consecutive years at both elementary/middle school and the high school levels.

2. An LEA shall be removed from Needs Improvement status if the LEA has made AYP for two consecutive years.

(b) An LEA that has not made AYP in the same subject for a period of two consecutive years at both elementary/middle school and the high school levels shall be identified as **Needs Improvement Year 1** and shall be subject to the following requirements:

1. The LEA shall develop, no later than 3 months after being identified as Needs Improvement, an LEA Improvement Plan. The LEA Improvement Plan shall be for a minimum of a two-year period and shall be reviewed and approved by the GDOE. The LEA Improvement Plan shall be in accordance with content and procedures developed and disseminated by the GDOE. The LEA shall implement the plan expeditiously, but not later than the beginning of the next school year after the school year in which the LEA was identified for improvement.

(c) An LEA identified as **Needs Improvement Year 2** shall implement the LEA Improvement Plan developed pursuant to subsection (3)(b), if not previously implemented.

(d) An LEA identified as **Needs Improvement Year 3** pursuant to subsection (3)(b) shall be subject to the following requirements:

1. The LEA shall develop, no later than 3 months after being identified for corrective action, an LEA Corrective Action Plan. The LEA Corrective Action Plan, shall be integrated with the LEA Improvement Plan, shall be for a minimum of a two

160-7-1-.04 (Continued)

year period, and shall be reviewed by the GDOE and approved by the State Board of Education upon recommendation of the GDOE. The LEA Corrective Action Plan shall be in accordance with content, format, and procedures developed and disseminated by the GDOE. The LEA shall implement the Corrective Action Plan no later than the beginning of the school year following the school year in which the LEA was identified for corrective action.

2. The LEA Corrective Action Plan shall include at least one corrective action as defined in federal law, which may include major restructuring of the system's governance arrangement that makes fundamental reforms, consistent with the corrective action options, and has substantial promise of enabling the LEA to meet AYP.

(4) OSA Audit Function and Record Retention Requirements.

(a) Record Retention Requirements. In addition to all other records required to be maintained by federal and state law, LEAs and schools shall maintain current records of contact information for all teachers, parents, and school council members. Teacher contact information shall include subjects and grade level/s taught, class schedules, years of experience, and certificate level. Parent contact information shall include current school or schools attended by children and current grade levels of children. School council member contact information shall include name, title, and community relationship to the school.

(b) Right to Audit. OSA may, upon GDOE recommendation or upon its own initiative, audit or inspect a school or LEA at any time. Such investigation may include performing an on-site audit of any school or LEA.

(c) OSA Audit Procedures. OSA shall employ the audit procedures described in this section.

1. **Procedure Prior to Detection of Noncompliance or Substantial Data Irregularities.** OSA may conduct audits of schools or LEAs at any time to ensure compliance with this rule. OSA audits prior to detection of noncompliance or substantial data irregularities may include, but are not limited to, review of the school or LEA's academic records. If, during the audit, OSA detects substantial data irregularities or noncompliance with the requirements of this rule, OSA may employ the procedures described in (4)(c)(2) of this rule.

2. **Procedure Upon Detection of Noncompliance or Substantial Data Irregularities.** Upon detection of noncompliance with the requirements of this rule or substantial data irregularities, OSA shall employ the audit procedures described in this subsection.

160-7-1-.04 (Continued)

(i) **Validation Review Then On-Site Audit.** Upon detection of noncompliance with the requirements of this rule or substantial data irregularities, OSA will provide notice identifying the incidence(s) of data irregularities or noncompliance to the identified school or LEA. When the school or LEA receives the notice from OSA, the school or LEA shall conduct an internal investigation of the irregularity or noncompliance identified by OSA. After conducting the internal investigation, the school or LEA shall provide a written explanation detailing the causes of the data irregularities or noncompliance to OSA. If OSA determines that the explanation is insufficient, OSA shall conduct an on-site audit of the school or LEA. The on-site audit may include, but is not limited to, review of the school or LEA's financial records, academic records, testing procedures, reporting procedures, and test security.

(ii) **On-Site Audit Without Validation Review.** Upon detection of noncompliance with the requirements of this rule or substantial data irregularities, OSA, upon its own determination, may conduct an on-site audit with or without notice to a school or LEA. The on-site audit may include, but is not limited to, review of the school or LEA's financial records, academic records, testing procedures, reporting procedures, and test security.

(d) Reporting. Upon conclusion of the on-site audit, OSA, where applicable, will prepare a draft audit report detailing the findings of its investigation. OSA will provide the affected LEA or school with a copy of the draft report and provide the school or LEA with thirty days to review and comment on the findings contained in the draft report. OSA will submit its final report to the SBOE.

(e) Recommendations. When applicable, OSA's final report may make a recommendation to the SBOE as to how to address the school or LEA's noncompliance with this rule. OSA may recommend sanctions including, but not limited to, withholding of federal and/or state funds pursuant to the procedures provided in State Board of Education Rule 160-5-2-.02 Withholding of Funds from Local Units of Administration.

Authority O.C.G.A. § 20-14-26; 20-14-37; 20-14-41.

Adopted: May 8, 2008 **Effective: May 28, 2008**

Appendix E2: Lowest Achieving School Definition

State Fiscal Stabilization Fund and School Improvement Grant 1003 (g)
Lowest Achieving Schools Definition

Persistently lowest-achieving schools in Georgia means the following:

Tier I schools: any Title I school in improvement, corrective action, or restructuring that
(1) is among the lowest-achieving 5% of those schools in the State (or the lowest-achieving five such schools); or
(2) is a high school that has a three-year average graduation rate < 60%.

Calculations to identify **Tier I** schools will be based on
(1) 2009-10 Title I schools in improvement, corrective action, and restructuring,
(2) lack of progress in academic achievement over a two-year period for all students in reading/language arts and math combined

Tier II Schools: any secondary school that is eligible for, but does not receive, Title I, Part A funds and
(1) is among the lowest-achieving 5% of such secondary schools in the State or the lowest- achieving five such secondary schools) or
(2) is a high school that has a three-year average graduation rate <60%.

Calculations to identify **Tier II** schools will be based on
(1) Proficiency combined with lack of progress over time for all students
(2) Proficiency based on combined scores for reading/language arts and math for all students
(3) Lowest-achieving schools chosen from lowest to highest proficiency rates stopping at 5%

Tier III Schools: any Title I school in improvement, corrective action, or restructuring that is not a Tier I or a Tier II school.

The Single Percentage Method will be used in calculating academic achievement in terms of proficiency, and the Lowest Achieving Over Multiple Years method will be used in determining whether a school has demonstrated a lack of progress over a number of years. Weights will also be applied based on school type (elementary, middle, high).

Academic progress is defined as improving proficiency levels on state assessments in the "all students" group by a significant amount (5-10 percent) over prior year levels.

SIG guidance defines secondary school as "a school that provides 'secondary education, as determined under State law, except that the term does not include any education beyond grade 12." While Georgia law doesn't provide a definition for a secondary school, the operational definition of secondary school has been any school with the combination of grades 9-12.

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Appendix E3: School Improvement Approaches Used, Results, and Lessons Learned

<table>
<tr><th>Approach Used</th><th># Schools Since SY2004-05</th><th>Results and Lessons Learned</th></tr>
<tr><td>Approach 1: Use of Improvement Contracts</td><td>63 schools (Non-Duplicated Count) signed contracts</td><td>In an attempt to provide more intensity to the support and expectations for the lowest performing NI schools, the GaDOE began using improvement contracts at certain NI levels. The first improvement contracts were issued in SY 07 for schools in NI 7. In SY 08, contracts were used in schools in NI 7 and 8. When Georgia's Differentiated Accountability Plan was approved in the summer of 2008, creating the "State-Directed" consequence levels, the use of improvement contracts was expanded to include NI levels 5 and above. A key lesson learned was that the earlier the intensive support begins, the more immediate is the success with AYP issues. The GaDOE also learned the value of a tightly-focused set of expectations for accountability. Having an improvement contract clarifies all expectations and requirements of a low performing school and makes it possible to closely monitor these expectations.
<table>
<tr><th>School Year</th><th>Schools Under Improvement Contract</th><th>Made AYP</th><th>Exited NI List</th></tr>
<tr><td>06-07</td><td>11</td><td>0</td><td>0</td></tr>
<tr><td>07-08</td><td>19</td><td>1</td><td>0</td></tr>
<tr><td>08-09</td><td>48</td><td>19</td><td>0</td></tr>
<tr><td>09-10</td><td>44</td><td>32</td><td>17</td></tr>
</table>
</td></tr>
</table>

Appendix E3: School Improvement Approaches Used, Results, and Lessons Learned

Approach 2: Focus on the Keys to Quality (School Keys, Georgia Assessment of Performance on School Standards (GAPSS), and Implementation Resource)

91 schools (Non-Duplicated Count) underwent GAPSS analysis

The Keys to Quality has given direction and continuity to school improvement in Georgia. Sets of the Keys to Quality were hand-delivered to all Georgia schools in the summer of 2005. The School Keys have set the standards for school performance, identifying best practices for which to strive. The Georgia Assessment of Performance on School Standards (GAPSS) is the single most powerful tool that Georgia has developed to help set targets for school improvement. This tool triangulates perception data, interview data, and classroom observation data to gather information about the degree to which schools are implementing the School Keys (school performance standards). This analysis can be interpreted and used to set targeted next steps for improvement. While this approach is mandatory for schools in NI 5 and 7, the GAPSS analysis has been widely accepted and has gained credibility among schools across the state, including schools making adequate yearly progress. One important lesson learned by the GaDOE is that combining the results of the GAPSS analyses and AYP data ensures added accuracy of effort when addressing AYP issues. Additionally, moving the requirement for mandatory GAPSS analyses to NI 5 and 7 from NI 6 and 8 has given earlier emphasis on intense support that lower achieving schools need to make AYP.

Year	NI Levels	# of Mandatory GAPSS	Made AYP Same Year	Exited NI Status Same Year	Made AYP Same or Following Year	Exited NI Status Same or Following Year
2005-06	NI 6 - 24 NI 7 - 14 NI 8 - 10	48	27/56%	12/44% (of 27)	33/69%	20/61% (of 33)
2006-07	NI 6 - 3 NI 7 - 3	6	0/ 0%	0/0%	4/67%	0/0%
2007-08	NI 8 - 10	10	7/70%	0/0%	8/80%	5/63% (of 8)
2008-09	NI 5 - 9 NI 6 - 5 NI 7 - 10 NI 8 - 3	27	22/82%	9/41% (of 22)	TBD	TBD
Total		**91**	**56/62%**	**21/38% (of 56)**	**TBD**	**TBD**

Appendix E3: School Improvement Approaches Used, Results, and Lessons Learned

<table>
<tr>
<td>Approach 3:
Use of a structured approach to development, implementation, and monitoring of a short-term action plan (STAP)</td>
<td>63
(Non-duplicated Count)</td>
<td>One strategy that has been a common denominator in the success of low-performing schools has been the Short-Term Action Plan (STAP) and monitoring process. These plans consisted of manageable portions of the school's overall improvement plan. State Directors, serving schools in NI 5 and higher, ensure that STAPs are appropriately developed and consistently implemented. The structured approach to the monitoring of these plans on a 45-60-day basis has had a tremendous impact on the performance of the improvement plans. This added element of accountability seems to be a motivator for schools seeking to improve. Another lesson learned is that schools do better focusing on fewer things in a more intense manner with close, systematic monitoring. The following charts show the impact of this process (begun in SY 07):

<table>
<tr><th>School Year</th><th># Schools Exiting NI Status</th></tr>
<tr><td>2006-2007</td><td>45</td></tr>
<tr><td>2007-2008</td><td>56</td></tr>
<tr><td>2008-2009</td><td>74</td></tr>
<tr><td>TOTAL</td><td>360</td></tr>
</table>

<table>
<tr><th>School Year</th><th>Number of Original Cohort of 533 NI Schools Still in Needs Improvement</th></tr>
<tr><td>2006-2007</td><td>87 (16%)</td></tr>
<tr><td>2007-2008</td><td>59 (11%)</td></tr>
<tr><td>2008-2009-</td><td>33 (6%)</td></tr>
</table>
</td>
</tr>
<tr>
<td>Approach 4:
Use of Classroom Observations with Feedback to Teachers</td>
<td>352
(implemented formally in last 2 years)</td>
<td>Each school improvement specialist and state director is expected to conduct focused classroom observations during each school visit and provide timely, descriptive feedback to the teachers in order to improve instructional delivery and student learning. This practice not only increases the use of best research-based practices, but it has earned the GaDOE credibility with teachers. One lesson learned is that in order for school improvement specialists and state directors to provide effective feedback to teachers, it is necessary for them to have a deep understanding of the Georgia Performance Standards and effective standards-based teaching practices. This need has resulted in a focus on standards-based teaching and learning and providing effective feedback during professional learning for GaDOE staff.

Relevant Data: (2008-2009)
1,698 Walk-throughs conducted
5,934 Observations with feedback</td>
</tr>
</table>

Appendix E3: School Improvement Approaches Used, Results, and Lessons Learned

<table>
<tr>
<td>Approach 5: Use of Focused Professional Learning</td>
<td>63 (Non-duplicated Count)</td>
<td>The GaDOE has emphasized the use of focused professional learning to improve implementation of the Georgia Performance Standards and the School Keys (school standards). Professional learning has been provided for classroom teachers, instructional coaches, administrators, and local district personnel. <u>One lesson learned is that there is a need to narrow the focus of professional learning and provide in-depth, ongoing professional learning with follow-up, support, and monitoring</u>. The structures that GaDOE has in place include, but are not limited to: (1) on-site support from a school improvement specialist or state director; and (2) on-site monitoring through the short-term action planning process to ensure that follow-up, support, and monitoring are provided as school staff members implement strategies and processes from GaDOE-provided professional learning.
<table>
<tr><th>Professional Learning</th><th>Targeted Audience</th><th>Number of Schools</th><th>Number of Participants</th></tr>
<tr><td>Raising Standards</td><td>Instructional coaches, teachers, and administrators</td><td>20</td><td>480</td></tr>
<tr><td>Instructional Support</td><td>Instructional coaches and teachers</td><td>48</td><td>467</td></tr>
<tr><td>Summer Leadership Academy</td><td>School teams including district personnel, administrators, teachers, instructional coaches, etc.</td><td>51</td><td>707</td></tr>
<tr><td>Thinking Maps Training</td><td>Administrators and all certified staff members</td><td>25</td><td>1,222</td></tr>
<tr><td>Active Literacy Training</td><td>Instructional coaches, teachers, and administrators</td><td>24</td><td>167</td></tr>
<tr><td>Instructional Coach/CLASS Keys Academy</td><td>Instructional coaches and teachers</td><td>44</td><td>300</td></tr>
<tr><td>Formative Assessment Training</td><td>Instructional coaches, teachers, and administrators</td><td>15</td><td>113</td></tr>
</table>
</td>
</tr>
</table>

Appendix E4: Outcomes of CISGA PLCs

Communities In Schools

Communities In Schools (CIS) is the nation's leading community-based organization helping young people successfully learn, stay in school, and prepare for life. CIS began in Atlanta in the early 1970s with "street academies" designed to provide an alternative educational experience for students who were dropping out of school. CIS is a decentralized network of local and state programs operating in more than 3,400 elementary, middle, and high schools with services reaching more than two million students.

Communities In Schools uses a proven community development approach to supporting education by unifying the existing resources of communities around children, families and schools as a support system to help young people realize their full potential and take responsibility for their future. Each CIS site organizes educators, businesses, community groups, social service providers, faith-based organizations, government, and volunteers to support students. By bringing resources, services, parents, and volunteers into a school, CIS helps students and their teachers concentrate on learning.

The Performance Learning Center®, (PLCs) a non-traditional high school, is CIS's most recent national initiative to reach high school students who might otherwise face academic failure and an uncertain future. Performance Learning Centers (PLCs) are a unique, nontraditional learning environment for high school students who are not succeeding in traditional schools for various reasons other than ability. To date more than 4,000 students have graduated from PLCs. More than 87% of those students improved their academic average while in the program.

The success of the PLCs generated numerous requests from schools districts for a middle school model that could address some of these students' challenges before entering high school. As a result, the Life and Learning Academies were created to do just that: provide a non-traditional, accelerated education setting for middle school students.

Program Outcomes

During the 2009 school year, CIS's network of 24 PLCs in Georgia (now down to 21 PLCs) served over 2,400 students. These small, non-traditional schools provide students who are not thriving in the traditional school environment with an opportunity to be successful and complete their high school education. PLCs do not sacrifice quality; students must master subjects in order to complete a course and still must pass all Georgia High School Graduation Tests (GHSGTs) and End Of Course Tests (EOCTs) in order to graduate.

Twenty-four PLCs tracked student progress this year and the results are as follows.

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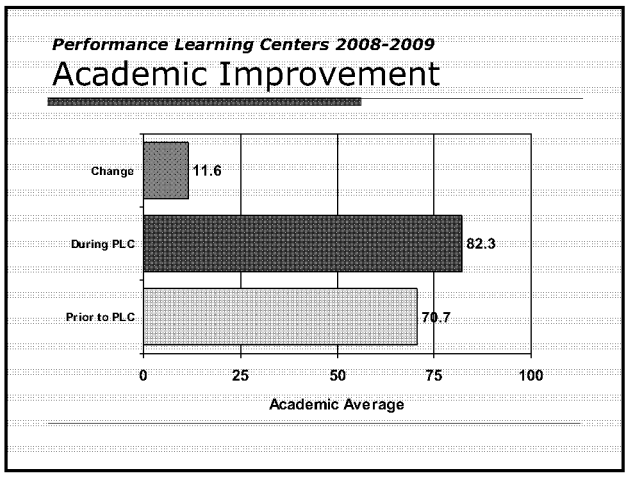
Appendix E4: Outcomes of CISGA PLCs

PLC Student Outcomes 2009

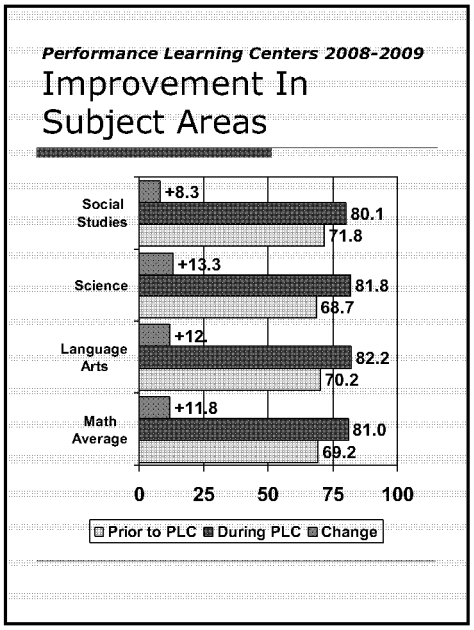
Academic Improvement

Academic Average. Students attending Georgia PLCs during the 2008-2009 school year increased their academic average from 70.7 to 82.3, an average gain of 11.6 points. Overall, 86.9% of students improved their academic average. The level of improvement in academic average for Georgia PLC students was statistically significant.



Improvement in Individual Subject Areas. In individual subject areas students demonstrated the following levels of improvement:

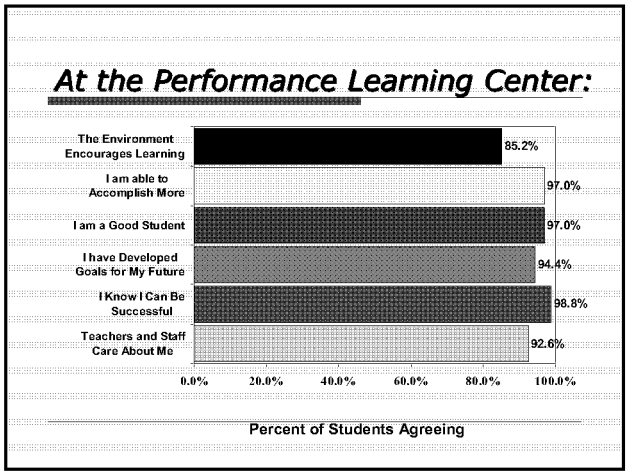
- **Math.** Math Average increased from 69.2 to 81.0, an average gain of 11.8 points. Overall, 77.1% of students improved.
- **Language Arts.** Language Arts Average increased from 70.2 to 82.2, an average increase of 12.0 points. Overall, 78.8% of students improved.
- **Science.** Science Average increased from 68.7 to 81.8, an average increase of 13.3 points. Overall, 84.1% of students improved.
- **Social Studies.** Social Studies Average increased from 71.8 to 80.1, an average gain of 8.3 points. Overall, 76.2% of students improved.



Improvement was statistically significant in all academic subject areas.

PLC Student Survey Results

Each year CIS surveys PLC students to get their feedback on the program to gain insight into how the PLC has affected their lives. Most students were positive in their impressions of the PLC. Nearly all of the students indicated that they were able to accomplish more at the PLC and know that they can be successful there. Most of the students indicated that the teachers and staff at PLC care about them.



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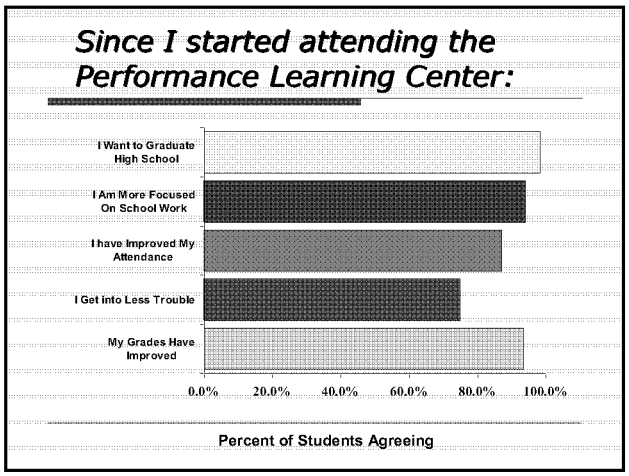
Appendix E4: Outcomes of CISGA PLCs

Students at PLC come to view themselves differently. Most students report being more focused on school work and have developed new goals for their futures. PLC students report that they have improved their behavior as well as their academic performance while attending the PLC.



PLC Graduates 2009

The chart to the right shows the number of students graduated by each of the Georgia PLCs throughout the 2008-09 school year. Overall, the 24 PLCs graduated a total of 916 students this school year, with 79.1% of students eligible to graduate receiving their diploma during the year. Another 43 PLC students have completed all coursework and need to complete their graduation tests in order to graduate. Over 4,000 Georgia students have graduated from PLCs since the 2002-03 school year.

Graduates by PLC 2009				
Athens	58		Douglas	61
Atlanta	58		Forsyth	73
Barrow	37		Glynn	50
Ben Hill	37		Harris	34
Berrien	21		Laurens	27
Bulloch	29		Lowndes	23
Candler	15		Marietta	51
Catoosa	34		Muscogee	9
Cobb	53		Savannah	36
Coweta	42		Screven	27
Decatur	31		Sumter	47
Dougherty	25		Walton	38
Total				**916**

Independent Evaluation of PLCs

During the school year, CIS of GA contracted for an independent external evaluation of the PLC initiative in our state. The evaluation was being conducted by ICF International. ICF International's research and evaluation division (formerly Caliber Associates) is well known for its work with educational research and serves as part of the review team for the U.S. Department of Education's Institute of Education Sciences' What Works Clearinghouse.

The cornerstone of the evaluation is a quasi-experimental study of the PLCs (one of the methods preferred by U.S. DOE), which compares school systems with PLCs to matched school systems without PLCs in the areas of improvement in graduation and dropout rates. ICF International has found a strong effect of having a PLC in a school district for graduation rates and a moderate effect for dropout rates. The effect sizes for the changes in graduation and dropout rates are in the range considered to be "substantively important."

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Appendix E4: Outcomes of CISGA PLCs

Major findings from the ICF International report include:

- **Key Services.** Survey data identified tutoring/academic assistance and life skills as key services in ensuring students stay in school and helping them excel academically.
- **Effectiveness of the Model.** Case studies documented the effectiveness of the PLC model in promoting individual student success by providing facilitated self-paced instruction, individualized attention, and strong connections between the student, PLC, and the community. These areas were considered to increase on-time graduation and result in increased student aspirations focused on both continuing education and expanded career options.
- **Importance of the PLC Services Coordinator.** Staff, community partners, parents, and students repeatedly noted the Services Coordinator as a key driver of success. The coordinator performs many important functions, and without the help of the Services Coordinator, the PLC struggles to cover the necessary responsibilities.
- **Cost Effectiveness.** A comparison of per pupil cost of the PLC model to that of traditional schools demonstrates that PLCs operate at the same or similar levels of expenditure.
- **Increased Graduation Rates.** PLC districts' graduation rates increased an average of 8.4 percentage points over the two years, compared to just 2.4 percentage points for non-PLC districts. Overall, PLC district graduation rates improved by 6.0 points more than the comparison districts over the 2 years.
- **Better Performance in Dropout Rates.** Dropout rates increased substantially for non-PLC districts over 2 years, while PLC districts only experienced only a slight increase in dropout rates (0.2 percentage points). Overall, net change results demonstrated better performance in dropout rates for PLC districts in comparison to non-PLC districts for 1 and 2 years following implementation (-1.3 percentage points year 1 and -0.2 Year 2).

ICF International concluded that "Georgia PLCs' targeted efforts appear to be having large district effects on student graduation rates and dropout rates - a finding which is surprising given that PLCs only enroll approximately 75 to 80 students within a district. Apparent reasons for this outcome appear to be centered in the PLC's non-traditional, self-directed, student-centered learning environment."

The full reports from the evaluation can be found in the PLC outcomes section of the CIS of GA website (www.cisga.org). The results of the evaluation will be presented this November in a session at the American Evaluation Association's national conference in Orlando, Florida.

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Appendix E5: Life and Learning Academy

Communities In Schools

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The Performance Learning Center®, (PLCs) a non-traditional high school, is CIS's most recent national initiative to reach high school students who might otherwise face academic failure and an uncertain future. Performance Learning Centers (PLCs) are a unique, nontraditional learning environment for high school students who are not succeeding in traditional schools for various reasons other than ability. To date more than 4,000 students have graduated from PLCs. More than 87% of those students improved their academic average while in the program.

The success of the PLCs generated numerous requests from schools districts for a middle school model that could address some of these students' challenges before entering high school. As a result, the Life and Learning Academies were created to do just that: provide a non-traditional, accelerated education setting for middle school students.

The National Coalition for Exemplary Schools

In order to bring the Life and Learning Academy concept to fruition, Communities In Schools is partnering with The National Coalition for Exemplary Schools (The Coalition). The Coalition will be responsible for managing and operating every Life and Learning Academy.

The mission of The Coalition is to boldly address the diverse needs of our schools by implementing innovative strategies in order to maximize the full potential of our children. We believe in order for a child to reach her/his full potential, specific schools must be developed and staff must be adequately trained to engage 21st century students with a rigorous and relevant LEARNING environment while also supporting and nurturing all aspects that affect their LIFE and future success. Every 21st century child deserves to be educated and surrounded by adults who believe in them, expect only excellence from them, and instill in them that they can and will graduate from college or other post-secondary institutions.

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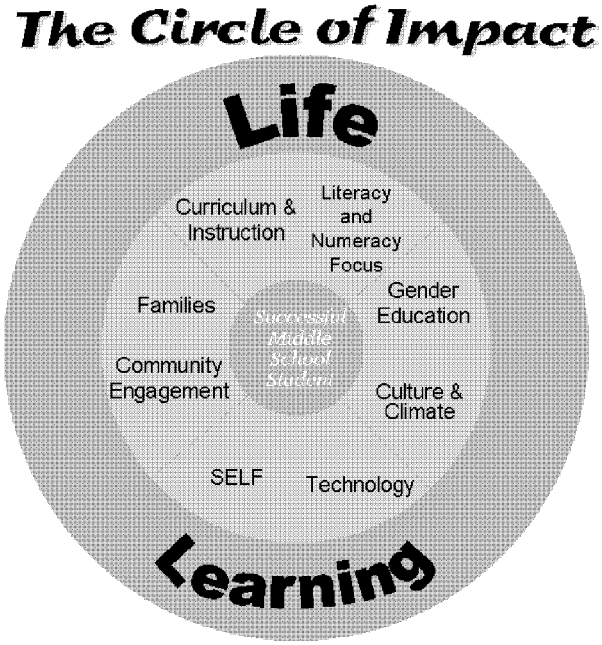
Appendix E5: Life and Learning Academy

Life and Learning Academy Model

Life and Learning Academies address the diverse needs of our children by maximizing the learning potential of boys and girls, while creating a supportive and nurturing learning environment centered on long-term relationships that positively impact their lives. The Middle School program will enable students to gain academic, organizational, leadership, and social skills required to succeed in high school. The Life and Learning Academy can take on two forms: a program within a school, or as a charter school. In every instance a Life and Learning Academy will include all of the aspects outlined in The Circle of Impact.

The Circle of Impact

The Circle of Impact serves as the foundation for the Life and Learning Academy. It is the basis from which we derive the organization, structure, and curriculum of our model for teaching and affecting the whole child.



Literacy and Numeracy Focus

Close to eight million students from upper elementary through high school are reading below grade level.[1] Lower literacy scores have a direct correlation to increased retention rates, which can lead to a student dropping out of school. Despite the fact that efforts to improve literacy before third grade have been shown to be successful for fourth graders, those same results often do not translate to better literacy scores once students reach middle and high school. To combat this issue and move toward full literacy success for all students, the Life and Learning Academy utilizes SRA's Corrective Reading and Expressive Writing as a cornerstone of our curriculum. The Reading Specialist coordinates the SRA program, coaches subject area teachers in how to teach reading in the content areas, supports the English language arts teachers in implementing Readers' and Writers' Workshop, and provides intensive remedial reading instruction for those students who are significantly below grade level in reading.

For those students whose math skills are below grade level, the Life and Learning Academy employs a Numeracy Specialist, a certified math teacher who provides intensive remedial math instruction. The Numeracy Specialist

[1] Biancarosa, C., & Snow, C. E. (2006). *Reading next—A vision for action and research in middle and high school literacy:A report to Carnegie Corporation of New York* (2nd ed.).Washington, DC:Alliance for Excellent Education.

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teaches a Literacy class along with all the other subject area teachers, coordinates math tutorial with the classroom math teachers, and acts as a resource for the classroom math teachers.

Curriculum and Instruction
There are two questions that we believe students should be able to answer each day in school. We call these Critical Questions:

1. What are we learning today? – Students must be active participants in their learning process. Through self-assessment, project-based learning and interaction with their advisors, students will be aware and engaged in the classroom.
2. What does this have to do with my life? – Understanding relevance is a key to true learning. Students should be able to connect their curriculum content to everyday life and future goals.

The Life and Learning Academy uses an innovative approach with academic courses centered on project-based learning and engaging, research-based best practices in instruction.

Gender Education
Research strongly indicates a disparity in reading achievement between boys and girls. Girls have been shown to be less likely than boys to drop out, get lower grades, or be retained. This, along with the fact that boys and girls generally have different learning styles and preferences, helps to make a case for the introduction of single-sex classrooms as a strategy for academic achievement of boys and girls.[2] While many activities at an LLA include boys and girls together, academic classroom time is spent in single-gender classrooms.

SELF
Social Emotional Learning Factors (SELF) is one of the defining features of the Life and Learning Academy. Self-development components are incorporated into the daily Advisory Family period. Addressing the social-emotional learning of students has been shown to have a positive impact on students' academic success. A survey of the research was summarized by the Collaborative for Academic, Social, and Emotional Learning, indicating the following results:

- Improvement in standardized test scores by 14 percentile points
- Greater school commitment
- 11 percent higher GPA
- Lower incidence of risky behaviors
- Increased student engagement[3]

Families
Through our Academic and Advisory Families, students and adults are immersed in an environment that encourages and supports the bonds that should be at the center of every family. Advisory programs' benefits include helping to foster relationships between students and teachers, providing an environment for social development, and promoting a positive school culture. In fact, research has shown a positive relationship between the incorporation of advisory programs and reduced drop out rates.[4] Advisory Families help to address the "life" part of a young person's experience, assisting them in making healthy choices and thinking proactively about their future, while ensuring that students and adults see, bond, and build relationships with each other every single morning of every single day.

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[2] The Education Alliance. (Winter 2007). "Gender Differences in Reading Achievement: Policy Implications and Best Practices". http://www.educationalliance.org/Downloads/Research/GenderDifferences.pdf

[3] Benefits of SEL: SEL & Academics, Collaborative for Academic, Social, and Emotional Learning. http://www.casel.org/sel/academics.php.

[4] Anfara, V.A. Jr. (2006). Research summary: Advisory programs. Retrieved Aug 10, 2008 from http://www.nmsa.org/ResearchSummaries/Advisory/Programs/tabid/812/Default.aspx

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Appendix E5: Life and Learning Academy

It is through our Academic Families that teachers gain a more in-depth understanding of a student's academic strengths and weaknesses. It is through creating long-term academic "bonds" that teachers and students are now able to build reciprocal accountable relationships. Teachers are better equipped to tailor instruction to a child's unique learning needs and style because of the long-term academic relationship they share with each other.

Technology

Technological innovation has become the norm and permeates almost every facet of life. Therefore, technology must be integrated into the curriculum in a way that keeps the student engaged and taps into individual learning styles. Each classroom in a Life and Learning Academy will be equipped with access to a computer for each student. Schools will also incorporate the use of technology in a variety of ways including the use of Smart Boards and technology-based curricula. Project-based learning is used to supplement, reinforce, and complete important standards, and computer knowledge is a major component: use of Internet as a research engine, PowerPoint presentations, use of spreadsheets and databases as a means of collecting/interpreting information.

Community Engagement

Participating in community service projects promotes personal growth among students and develops the skills needed for productive citizenship. By providing service to the community, students will recognize the positive impact they can have on individuals and on the community as a whole. During advisory time students will decide on potential community service projects. Ideas will be voted on and each advisory family undertakes one project each semester.

Culture and Climate

School culture and climate in a Life and Learning Academy is extremely important to the success of its students. A school climate must exhibit the belief and expectation that all children will succeed, not just a select few. If this culture is to exist, schools must establish a climate that is welcoming and receptive to all. The school environment of the LLA differs significantly from the traditional school model currently used in mainstream educational settings. Special emphasis is placed on creating a physical space that signifies high expectations and acknowledges the potential of the students. The usual roles of teacher and student are transformed to create a community of learners sharing time, talent and energy to help each other. The low teacher-student ratio allows students to have more instructional attention and creates a more interactive environment.

Student Selection Criteria

The Life and Learning Academy (LLA) is designed to serve students in grades 6-8 who are not succeeding in the traditional school setting or who may be at risk for dropping out of high school.

Reading Deficiencies: Students' reading levels for placement purposes will be whatever the sending school has determined using standardized tests such as STAR, Stanford-9, Terra Nova, Iowa Test of Basic Skills, etc. Upon entry into the LLA, we will use the SRA Placement Test to determine reading grade level.
8th grader—no more than 2 grade levels behind.
7th grader—no more than 3 grade levels behind.
6th grader—no restrictions on how far behind in reading grade level.

CRCT Failure: no restrictions on CRCT performance.

Attendance: no restriction on number of absences

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Appendix E5: Life and Learning Academy

Retention: not retained more than once.

Behavior/Alternative Placement: The LLA is not suitable for students whose behavior is chronically disruptive such that they need an alternative placement for punitive reasons, or those special education students whose Individualized Education Plan (IEP) indicates the need for an emotionally/behaviorally disordered program or a therapeutic day program.

Special Education: no students who require self-contained classrooms.

Grade Level: 6th-8th

Gender: Proportionate division; try to divide as evenly as possible.

Over Age: no students over age 15.

Unique Aspects of Every Academy

- Teacher training – highly qualified teachers are given specific training on learning how to build meaningful relationships with their students, as well as program-specific functions of the LLA.
- Intensive focus on literacy and numeracy, with school wide literacy classes taught daily by every teacher, a full-time Reading Specialist and Numeracy Specialist, and remediation classes provided for students who are significantly below grade level in reading and/or math.
- CIS Program Coordinator to help meet the non-academic needs of students that may be impeding their progress in school.

Program Outcomes

The LLA is the logical evolution of the highly successful Performance Learning Centers (PLC) initiative. There is ample data to demonstrate the success of the PLCs in Georgia (see *Appendix E4: Outcomes of CISGA PLCs*). It is reasonable to assume that the LLAs would enjoy a similar degree of success.

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Appendix F1: Quality Basic Education Act

The Quality Basic Education Act (QBE) was enacted in 1985 by Governor Joe Frank Harris.

The issue that compelled the passage of QBE was the inequality in funding among school systems in the state. The state has traditionally funded a portion of local school system budgets, and the remaining support came from local taxes. Before QBE, school systems received state allocations on the basis of the number of students enrolled, without any adjustment for the fiscal condition of the school system or its ability to raise revenues on its own. Rural systems could not generate as much local funding as suburban districts could. By the early 1980s urban school systems with shrinking tax bases were also having difficulty keeping funding at already established levels, and legislators from both urban and rural counties called for funding equalization. Suburban legislators wanted more accountability for state funds and higher standards for teachers, but they opposed proposals that would redirect the state money their districts currently received.

QBE increased the total amount of money appropriated for K-12 education. QBE required each district to contribute the equivalent of a 5-mill property-tax rate to education, with additional state funds provided to poor districts that exceed 5 mills (under the "local fair share" provision, additional state funds were given to school districts that increased local funding). QBE also introduced the "student full-time equivalent" standard in funding. This complicated mechanism allocated state funding to local school districts not on the basis of the total number of pupils enrolled in the system but depending on how many hours students were in class during a school day. The state acquired the power to compel poorly funded systems to spend more money on programs found deficient.

The QBE Formula: The QBE Act established a formula to determine the cost per student for each of 19 general programs, based on the type of instruction for each student. The cost of each program is calculated through a series of "building blocks" for the various components of the total cost, such as the salary and benefits for the classroom teacher; the cost of textbooks and instructional materials; the cost of utilities and maintenance; and allocations for specialists, instructional support, and administrative expenses at the school and system levels.

The salary of the teacher and other certificated positions is based on the State's minimum salary schedule, with adjustments for the training and experience of the system's certificated employees in each field and allowances for health insurance and pension benefits. The amount per student depends on the number of students in each class (the "Funding Ratio") as well as the staffing ratios for other positions. The resulting cost per student is then multiplied by the number of full-time equivalent (FTE) students in each program, taking into account the portion of the school day that each student spends in each program.

Categorical Grants are made by the State for those activities, such as pupil transportation, which are estimated on a system-wide basis instead of a per-student basis. Additional funds are provided through Equalization Grants to assist the systems with the least taxable property per student in supplementing the basic program on the same basis as other systems. These grants are intended to enable every system to derive as much revenue from each of the next 15 mills of

property tax above the first 5 mills as does the system at the 75th percentile, when ranking all systems according to their property-tax digest per weighted student.

The tax digest is "equalized" to ensure that the property in each jurisdiction is assessed on the same basis, and the number of students is adjusted by weighting the students by the relative cost of the programs in which they are enrolled.

Every system is expected to contribute a local share based on the revenue which would be generated by five mills of property taxes when levied on the "equalized" tax digest for the system (the Five Mill Local Share, as it is now called).

Other changes brought about by the QBE Act: Further, the act established minimum salary levels for educators and merit pay incentives for outstanding teachers. QBE also raised the professional standards for teacher certification and funded continuing-education / professional development opportunities for teachers already in the field. The act allowed the state school board to set pupil-to-teacher ratios, offer incentives to local school districts for Head Start and full-day kindergarten programs, and establish graduation competencies in math, science, language, social science, and health. QBE also mandated that Georgia history be taught in the eighth grade. Finally, QBE established the Quality Core Curriculum (QCC), which set guidelines for the specific material to be taught at each grade level. The QCC was replaced by Georgia Performance Standards, starting in 2005-06 (phased implementation).

Appendix F2: Example of Contract with State Directed School

IMPROVEMENT CONTRACT

BY AND BETWEEN

GEORGIA DEPARTMENT OF EDUCATION

AND

ATLANTA PUBLIC SCHOOLS BOARD OF EDUCATION

RELATING TO

FORREST HILLS ACADEMY

STATE OF GEORGIA

COUNTY OF FULTON

This contract ("Improvement Contract" or "Contract") is made and entered into this 1st day of September in the year 2009 by and between the State Board of Education, on behalf of the Georgia Department of Education, hereinafter referred to as the "Department" or "GaDOE" and Atlanta Public Schools Board of Education, hereinafter referred to as the Local Educational Agency or "LEA".

WHEREAS, pursuant to State Board of Education Rule 160-7-1-.04(2) and Georgia's federally approved Differentiated Accountability Plan, hereby incorporated and made a part of this Contract as Attachment 1, ("hereinafter referred to as the "Differentiated Accountability Plan") Forrest Hills Academy, part of the Local Educational Agency (hereinafter referred to as the "School") has been classified as a State-Directed School; and

WHEREAS, in order to be removed from State-Directed status, the School must make Adequate Yearly Progress (hereinafter referred to as "AYP") for two consecutive years; and

WHEREAS, pursuant to State Board of Education Rule 160-7-1-.04(2)(h) and the Differentiated Accountability Plan, the Local Educational Agency must enter into an Improvement Contract with GaDOE regarding the School; and

WHEREAS, pursuant to State Board of Education Rule 160-7-1-.04 (2)(i) and the Differentiated Accountability Plan, GaDOE will conduct a School Performance Review (hereinafter referred to as the "Georgia Assessment of Performance on School Standards Analysis or GAPSS Analysis") of the factors affecting student performance to determine School and Local Educational Agency improvement interventions; and

WHEREAS, pursuant to State Board of Education Rule 160-7-1-.04 (2)(i), GaDOE must conduct a System Performance Review and needs assessment to determine additional School and Local Educational Agency improvement interventions; and

Appendix F2: Example of Contract with State Directed School

WHEREAS, pursuant to State Board of Education Rule 160-7-1-.04, the GaDOE School Performance Review and System Performance Review teams are making recommendations to the State Board of Education (SBOE) regarding school-level and system-level interventions (hereinafter collectively referred to as the "Interventions"); as stated in the Reports from the School Performance Review (GAPSS Analysis) and System Performance Review; and

WHEREAS, pursuant to State Board of Education Rule 160-7-1-.04 (2)(g), (h), and (i), during the term of this Contract the Interventions for the school may include, but are not limited to, removal of personnel at the school level relevant to the School not making AYP; appointment of an Instructional Coach; management of the School budget; utilization of Georgia Performance Standards (GPS) Learning Frameworks and progress monitoring; school closure; mandated charter school; complete reconstitution of the school; site-based expenditure controls and/or specified maximum class sizes; and

WHEREAS, pursuant to State Board of Education Rule 160-7-1-.04 (2)(g), (h), and (i), during the term of this Contract the Interventions for the Local Educational Agency may include, but are not limited to removal of personnel at the Local Educational Agency level relevant to the School not making AYP; appointment of a Local Educational Agency Support Specialist to manage and approve the financial, personnel, and program resources of the School; redirection of resources (local, state, and federal) to support improvements; a plan for a local conversion charter; a comparative analysis of the district teaching and administrative force to ascertain equitable student access to highly qualified, highly effective teachers and administrators in the School; implementation of a redistribution and recruitment plan to ensure equitable student access to highly qualified, highly effective teachers in the School; a decrease of management authority for the superintendent and local board of education; assignment of a management team to operate all or part of the Local Educational Agency and restructuring of the Local Educational Agency's governance arrangement; and

WHEREAS, in accordance with State Board of Education Rule 160-7-1-.04 and the Differentiated Accountability Plan, failure of the Local Educational Agency to enter into and comply with the terms of an Improvement Contract, as applicable, will result in a referral to the Governor's Office of Student Achievement (GOSA) for an investigation and/or audit, resulting in a report with recommendations to the State Board of Education. These recommendations may include, but are not limited to, withholding selected or all State and/or Federal funds from such Local Educational Agency and/or any intervention permissible by law or rule; and

WHEREAS, in accordance with State Board of Education Rule 160-7-1-.04 and the Differentiated Accountability Plan, GaDOE and the Local Educational Agency now desire to enter into this Improvement Contract in order to affirm the Local Educational Agency's and School's commitment to implement the Interventions and GaDOE's commitment to assist the Local Educational Agency with the implementation of the Interventions;

NOW, THEREFORE, in consideration of the benefits and duties contained herein, and with the expectation that School will make AYP for two consecutive years and thereby be removed from State-Directed status, the parties hereby agree as follows:

1. Incorporation and Priority of Documents. The following documents are hereby incorporated into and made a part of this Contract. In case of conflict, order of priority for the documents shall be as follows: (1) the Contract; (2) the System Short-Term Action Plans; (3) the School Short-Term Action Plans; (4) the Interventions adopted as a result of the System Performance Review; (5) the Interventions adopted as a result of the School Performance Review (GAPSS Analysis); and (6) the School Improvement Plan. It is expressly understood by the parties that the School Improvement Plan and the Short-Term Action Plans (hereinafter the "Plans") may be amended based upon AYP or other considerations. The most recent version of the Plans, as they become adopted, shall be incorporated into this contract automatically. In addition, the reports of the School and System Performance Reviews shall be incorporated into this contract automatically.

1.1 System Short-Term Action Plan. This Plan identifies short-term action steps of 45 to 60 days duration to research, develop, and establish the structures needed to implement the Interventions recommended in the System Performance Review. The System Short-Term Action Plan is created by the Local Educational Agency in collaboration with GaDOE's Division of State-Directed Schools. This Plan is founded upon the School Keys (Georgia School Standards) and identifies specific action steps related to the Interventions from the System Performance Review, and other identified system improvement goals. It also identifies the person(s) responsible for each action step and sets deadlines for achieving each action step. The Division of State-Directed Schools shall have final decision-making authority in the interventions included in the System Short-Term Action Plan. Failure of the Local Educational Agency on behalf of the School to implement, complete, or otherwise accomplish these action steps within the time frame identified in the System Short-Term Action Plan may result in a referral to the Governor's Office of Student Achievement (GOSA) for an investigation and/or audit, resulting in a report with recommendations to the State Board of Education. These recommendations may include, but are not limited to a decrease of management authority for the superintendent and local board of education; assignment of a management team to operate all or part of the Local Educational Agency and restructuring of the Local Educational Agency's governance arrangement. The System's Short-Term Action Plan is provided as Attachment 2 to this Contract and is hereby incorporated by reference.

1.2 School Short-Term Action Plan. This Plan identifies short-term action steps of 45 to 60 days duration for improving the School's performance. The School Short-Term Action Plan is created by the Local Educational Agency and the School in collaboration with GaDOE's Division of State-Directed Schools represented by the GaDOE monitor of the contract. This Plan is founded upon the School Keys (Georgia School Standards) and identifies specific action steps related to the Interventions from the GAPSS Analysis, achievement of the Annual Measurable Objectives for all identified subgroups, Participation Rate, Second Indicators, attendance (if attendance is not the second indicator), and other identified school improvement goals. It also identifies the person(s) responsible for each action step and sets deadlines for achieving each action step. The Division of State-Directed Schools shall have final decision making authority in the interventions included in the School Short-Term Action Plan. Failure of the Local Educational Agency on behalf of the School to implement, complete, or otherwise accomplish these action steps within the time frame identified in the School Short-Term Action Plan may result in a referral to the Governor's Office of Student Achievement (GOSA) for an investigation and/or audit, resulting in a report with recommendations to the State Board of Education. These recommendations may include a recommendation to withhold selected or all State and/or Federal funds from such Local Educational Agency. The School's Short-Term Action Plan is provided as Attachment 3 to this Contract and is hereby incorporated by reference.

1.3 System Interventions. The GaDOE will conduct a System Performance Review. The report generated as a result of the System Performance Review will include recommended system interventions. This report will be delivered to the LEA and shall then automatically be incorporated by reference as Attachment 4 to this Contract.

1.4 School Interventions. The School shall be subject to a new School Performance Review (GAPSS Analysis) conducted by GaDOE. The GAPSS Analysis report will include recommended interventions. The GAPSS Analysis report will be delivered to the School and/or LEA and shall then automatically be incorporated by reference as Attachment 5 to this Contract.

1.5 School Improvement Plan. Pursuant to the requirements of No Child Left Behind, 20 U.S.C. §6316(b)(3), the School has developed, and the Local Educational Agency has approved, a School Improvement Plan ("School Improvement Plan") to serve as a blueprint for guiding the School's continuous improvement and progress toward identified student achievement objectives and targets. The School Improvement Plan identifies the School's Annual Measurable Objectives for (1) Reading and English Language Arts, (2) Mathematics, and (3) Second Indicators. The School Improvement Plan details strategies/action steps, the strands of the School Keys (Georgia School Standards) with which the strategy/action correlates, individuals responsible, evidence/artifacts, and benchmark measures. The Annual Measurable Objectives outlined in the School Improvement Plan are School-identified goals that shall be monitored under this contract. Failure of a Local Educational Agency or School to implement the detailed strategies/actions in order to achieve these Annual Measurable Objectives may result in a referral to the Governor's Office of Student Achievement (GOSA) for an investigation and/or audit, resulting in a report with recommendations to the State Board of

Education. These recommendations may include a recommendation to withhold selected or all State and/or Federal funds from such Local Educational Agency and/or any interventions permissible by rule or law. The School Improvement Plan is provided as Attachment 6 to this Contract and is hereby incorporated by reference.

2. Responsibilities and Commitments. The parties expressly recognize that teamwork and partnership are critical elements for successful improvement of student achievement at the School. The parties further recognize that to succeed this partnership must extend beyond the parties themselves to include students, parents, school councils, leadership teams, as well as business and community leaders. In accordance with these objectives of partnership and school improvement, the parties agree to the non-negotiable Contract elements and Customized Contract Expectations provided in Attachment 7, which is hereby incorporated and made a part of this Contract.

3. Contract Performance Standards and Contract Benchmarks.

3.1 On behalf of the School, the Local Educational Agency agrees that the School shall achieve by the end of the 2009-2010 school year the Annual Measurable Objectives identified in the School's Improvement Plan in (1) Reading and English Language Arts, (2) Mathematics, and (3) Second Indicators.

3.2 On behalf of the School, the Local Educational Agency agrees that the School shall be expected to achieve Adequate Yearly Progress (AYP) by the end of the 2009-2010 school year.

3.3 On behalf of the School, the Local Educational Agency agrees that the School shall complete or otherwise accomplish the steps identified in the School's Short-Term Action Plan within the time frame specified by the Plan.

3.4 Failure of the Local Educational Agency or School to achieve these contract performance standards identified in subparagraphs 3.1, 3.2, and 3.3 above may result in a referral to the Governor's Office of Student Achievement (GOSA) for an investigation and/or audit, resulting in a report with recommendations to the State Board of Education. These recommendations may include a recommendation to withhold selected or all State and/or Federal funds from such Local Educational Agency.

4. Commencement Date and Term. The Local Educational Agency on behalf of the School expressly recognizes that under State Board of Education Rule 160-7-1-.04 and the Differentiated Accountability Plan, the School shall remain in State-Directed status for a two year period. This Contract shall commence on Oct. 5, 2009, (hereinafter "Commencement Date") and shall expire on September 30, 2011, unless sooner terminated (hereinafter "Term"). LEA and the GaDOE through ongoing monitoring and evaluation, will determine appropriate amendments and revisions to the Improvement Contract during the first year of implementation to be approved by the State Board of Education.

5. Termination. GaDOE may terminate this Contract upon ninety (90) days written notice to the other for whatever reason. This contract shall terminate automatically upon execution by all parties of a new contract under Georgia's Single Statewide Accountability System.

6. Authority. Each party represents and warrants that it has the authority to enter into this Contract and that its governing body has authorized, by proper action, the execution and delivery of this Contract. Each party represents that there is no litigation or proceeding pending, or to its knowledge, threatened against it having a material adverse effect on the right of the party to execute this Contract or the ability of the party to comply with any of its obligations under this Contract.

7. Venue and Governing Law. Any action brought by one party to this Contract against the other party shall be brought in the Superior Court of Fulton County and this Agreement will be governed by and construed in accordance with Georgia law.

8. Headings. The headings in this Contract have been inserted for convenience of reference and shall not affect, expand, or restrict the terms or conditions hereof.

9. Waiver. No party will be deemed to have waived any provisions of this Contract unless such waiver is made explicit in writing and signed by the party waiving such provision. No waiver shall be deemed to be a continuing waiver unless so stated in writing.

10. Assignment. This Contract shall not be assigned or transferred unless consented to in writing by the Georgia Department of Education.

11. Amendments. No amendment, change, or modification to this Agreement will be binding upon the parties unless such amendment, change, or modification is made in writing as an amendment to this Contract and duly executed by all parties.

12. Severability. If any provision of this Contract is held to be invalid, illegal, or unenforceable for any reason, the validity, legality, and enforceability of the remaining provisions of this Contract will not be adversely affected.

13. Notices. Any notice to be made by either party to the other shall be sufficiently made if delivered in hand, or three (3) calendar days after posting, if sent by registered or certified mail, return receipt requested, to a party hereto at the address set forth below or such other address as a party may designate by notice hereto.

Appendix F2: Example of Contract with State Directed School

FOR DEPARTMENT

Attention: Project Manager	**With a copy to: Legal services**
Lynda Martin, Associate Superintendent	Jennifer Hackemeyer
Division of School Improvement	General Counsel
205 Jesse Hill Jr. Drive,	205 Jesse Hill Jr. Drive,
1870 Twin Towers East	Suite 1605 Twin Towers East
Atlanta, GA 30334	Atlanta, Georgia 30334
Phone: (404) 657-7633	Phone: (404) 463-2741
Fax: (404) 651-5264	Fax (404) 656-2136

FOR the LOCAL EDUCATIONAL AGENCY:

LaChandra D. Butler Burks

Chairman of the Board of Education for Atlanta Public Schools

130 Trinity Avenue, SW

Atlanta, Georgia 30303

Phone: (404) 802-2200

Fax: (404) 802-1204

Superintendent for Atlanta Public Schools

Dr. Beverly L. Hall

130 Trinity Avenue, SW

Atlanta, GA 30303

Phone: (404) 802-2820

Fax: (404) 802-1803

Appendix F2: Example of Contract with State Directed School

IN WITNESS WHEREOF, the parties state and affirm that they are duly authorized to bind the respected entities designated below as of the day and year indicated.

GEORGIA DEPARTMENT OF EDUCATION

Wanda T. Barrs

Wanda Barrs, Chairperson, State Board of Education

Kathy Cox

Kathy Cox, State Superintendent of Schools

PUBLIC SCHOOL SYSTEM

Lachandra Butler Burks

_____, Chairperson, Board of Education

Beverly L. Hall /gr

Beverly Hall, Superintendent, APS

APPROVED AS TO LEGAL FORM
BY: [signature]

Appendix F2: Example of Contract with State Directed School

Georgia Department of Education
Improvement Contract Roles and Responsibilities
2009-2010
NI 5, NI 6, NI 7, NI 8, NI 9 and NI 10 Schools

LEA must enter into an annual state-directed improvement contract with terms and conditions directed by the GaDOE. Title I schools will receive funding to support implementation of elements of the contract.

Non-Negotiable Contract Elements:

1. Assignment of a GaDOE state director to the school. The state director will be assigned to the school full time (NI 5-10) and will provide direct supervision in the implementation of all school improvement actions;
2. GaDOE personnel assigned to the school will be directly involved in decisions regarding the replacement of staff (e.g., principal);
3. Implement the instructional frameworks in each classroom;
4. Administer benchmark assessments and analyze results to guide instruction;
5. Implement short-term action plans;
6. Analyze teacher attendance and develop action plans if needed;
7. Analyze student attendance and develop action plans if needed;
8. Analyze discipline records and develop action plans if needed;
9. Address targeted areas from the Georgia Analysis of Performance on School Standards (GAPSS) through short-term action plans;
10. Participate in the Georgia Analysis of Performance on School Standards at levels 5 and 7;
11. Participate in GaDOE professional learning for state-directed schools;
12. Hire instructional coaches for specific content area needs, based on AYP results.
13. Participate in the CLASS Keys teacher evaluation system.

Customized Contract Expectations:

In addition to the set of non-negotiable actions, a set of customized expectations will be developed annually by the state with each school and system to address the unique issues that the school may face in the coming school year. These expectations will be based on the most recent school data analysis available.

Appendix F2: Example of Contract with State Directed School

The Local Education Agency (LEA) will

1. Provide leadership and support to the school, including the assignment of a system level administrator to the school's leadership team.
2. Allocate and otherwise provide financial and other resources to enable the school to make AYP. Title I School Improvement funds awarded to the LEA on behalf of the school shall be made available for exclusive use by the school in a timely manner.
3. Ensure system level administrators work closely with GaDOE to expedite any and all Title I issues, e.g. Title I Grant Assurances.
4. Select, hire, place, and empower appropriate system and school personnel to enable the school to make AYP.
5. Conduct a comparative analysis of the district teaching and administrative force to ascertain equitable student access to highly qualified, highly effective teachers and administrators supported by assigned human resource professional staff and implement a redistribution plan and/or recruitment plan, if applicable.
6. Conduct an analysis of teacher attendance, and if applicable, implement a plan to improve teacher attendance in the school.
7. Provide personnel dedicated to support at-risk students in danger of not graduating on time (graduation coach/counselor).
8. Participate in and cooperate with any Governor's Office of Student Achievement audit or review, if applicable.
9. Ensure GaDOE personnel assigned to the school are directly involved in decisions regarding the replacement of staff.
10. Participate in a System Performance Review and communicate the recommended interventions to staff, parents, and the community. (Systems with NI 8 schools only.)
11. Research, develop, and establish the structures needed to implement the interventions recommended in the System Performance Review and implement interventions.
12. Support the school's implementation of expectations from GaDOE professional learning for administrators, teachers, and instructional coaches.
13. Support the school's participation and implementation of the GaDOE common online assessment system.

Responsibilities and Commitments of the Local Education Agency (LEA)
Customization(s)
No customizations requested.

Appendix F2: Example of Contract with State Directed School

The school will

1. Establish a leadership team that meets a minimum of twice per month to focus on instructional goals and issues. The leadership team will include the school principal, a representative group of the school's teachers, a GaDOE assigned state director, and a system administrator. Leadership team minutes will be provided to the GaDOE monitor of the contract at each short-term action meeting.
2. Budget and appropriately utilize financial resources to hire an instructional coach(es) to support progress in meeting identified areas of need according to the school's AYP report, purchase and allocate classroom resources, and support participation in GaDOE professional learning for state-directed schools.
3. Analyze student attendance and implement an action plan to address attendance concerns, if applicable.
4. Monitor the work of the student information clerk to ensure that all data submissions into the Student Information System are accurate and coded properly.
5. Monitor student progress towards graduating on time.
6. Utilize the Georgia Performance Standards Frameworks and curriculum maps.
7. Implement classroom formative assessments.
8. Meet with assigned GaDOE personnel throughout the year to review implementation of the school improvement plan, review data, and monitor student progress towards mastery of the curriculum.
9. Participate in the GaDOE common online assessment system. (Elementary and middle schools only.)
10. Designate content and special education teachers, instructional coaches, the principal and/or other selected school leaders to participate in and implement expectations from the GaDOE targeted professional learning for state-directed schools.
11. Provide the structure to support collaborative, content focused professional learning sessions.
12. Designate content area teachers (general and special education) to participate in targeted, professional learning to support the Georgia Performance Standards Frameworks.
13. Utilize the School Keys and the accompanying Implementation Resource.
14. Utilize the school council as outlined in Georgia law, O.C.G.A. §20-2-86.
15. Design and implement 45-60 Day Short-Term Action Plans.
16. Participate in and cooperate with any Governor's Office of Student Achievement audit or review, if applicable.
17. Participate in the Georgia Analysis of Performance on School Standards and incorporate recommendations in the school improvement plan. (NI 5 and NI 7 schools only.)
18. Participate in and implement expectations from the leadership training.

Responsibilities and Commitments of the School Managed by the LEA
Customization(s)
Use district benchmark assessments in the spring; state benchmarks for fall and winter. Use Metro RESA content support.

Appendix F2: Example of Contract with State Directed School

The Georgia Department of Education will

1. Provide a state director and other support personnel to the school.
2. Provide support and monitor the development and implementation of the school's 45-60 Day Short-Term Action Plans.
3. Conduct the System Performance Review (NI 8) and provide support to develop and implement the LEA's 45-60 Day Short-Term Action Plans.
4. Provide professional learning for teachers, instructional coaches, and leaders in state-directed schools.
5. Provide training on School and Leader Quality tools and resources.
6. Provide the common online assessment system.
7. Provide school progress reports to the State School Superintendent's office and the Governor's Office of Student Achievement, when applicable.
8. Provide assistance to the LEA regarding the comparative analysis and redistribution/recruitment plan, if applicable.
9. Conduct a Georgia Analysis of Performance on School Standards (GAPSS) Analysis in NI 5 and NI 7 schools.
10. Participate directly in decisions regarding the replacement of staff at the school.

Responsibilities and Commitments of the Georgia Department of Education
Customization(s)
The school will have the option to request sending a team to the 2010 Summer Leadership Academy.

Appendix F3: Charter Schools by Type

Type	Count
Conversion charter school	32
Commission	2
LEA Startup	18
LEA Startup/Career Academy	6
Start up charter school	34
State chartered special school	4
System charter school	25
Total	**121**

Charter Types

1. Conversion: a charter school that existed as a local school prior to becoming a charter school. To apply as a conversion, a majority of the faculty and instructional staff members and a majority of parents or guardians of students enrolled in the petitioning school must vote by secret ballot to apply for a charter.
2. Commission charter school: a start-up charter school authorized by the Commission and that is operating under the terms of a charter between a charter petitioner and the Commission.
3. Local Educational Agency (LEA) Start-up: a start-up charter school created by submission of a petition by the LEA to the local school board.
4. Start-up charter school: a charter school created by a petition brought forth by private individuals, private organizations, or a state or local public entity.
5. State Chartered Special School: a charter school created as a special school that is operating under the terms of a charter between the charter petitioner and the SBOE. Petitioners may apply to become a state chartered special school if their petition is first denied by the local board and they apply for state chartered special school status to the SBOE. Conversion charter school petitioners may not apply to be state chartered special schools.
6. System Charter School: a conversion charter school that is within an LEA granted system charter status by the SBOE.

Conversions, start-ups, LEA start-ups, and system charter schools – are under the management and control of the local board, with the SBOE as a third party to the contract. Only state chartered special schools are under the management and control of the SBOE. Also, start-ups, LEA start-ups, and state chartered special schools are all created as new schools and cannot be existing public schools. Only conversion charter schools and system charter schools may be previously existing public schools.

Appendix F4: GA Charter School Activity Each Year

KEY

C=Conversion Charter School	S = start up charter school	CA=Career Academy
SS= Stated Chartered Special School	LS = LEA Startup	Commission= commission approved charter school
CS=Charter System	CR and SR = renewed charter	LS-CA = LEA Startup Career Academy

#	Charter School / System	County / District	Charter Initially Approved	Charter Opened/ Converted	Charter Term Expires	Grades	Type	School Address	City	Zip	Telephone	Principal / Director	Superintendent	Current Term Ends
1	Addison Elementary School	Cobb County	May-95	August-95	6-30-13	K-5	C	3055 Ebenezer Rd	Marietta	30066	770-578-2700	Karen Crowder	Fred Sanderson	6-30-13
1	Amana Academy	Fulton County	August-04	August-05	06-30-14	K-6	S	285 S. Main Street	Alpharetta	30009	678-624-0989	Interim Director	Dr. Cindy Loe	06-30-14
1	Athens Community Career Academy	Clarke County	March-09	Projected to Open Fall 2010	06-30-15	9-12	LS	240 Mitchell Bridge Road	Athens	30606	706-546-7721 ext 18231	Not Chosen at this time	James Sims	06-30-15
1	Atlanta Charter Middle School	APS	April-05	August-05	6-30-10	6-8	S	820 Essie Ave SE	Atlanta	30316	678-904-0051	Matt Underwood	Dr. Beverly Hall	6-30-10
1	Atlanta Preparatory Academy	APS	July-08	August-09	6-30-13	K-8	S	569 Martin Luther King Jr., DR	Atlanta	30314	404-492-5362	Ericka Williams	Dr. Beverly Hall	6-30-13
1	Baconton Community Charter School	Mitchell County	May-00	September-00	6-30-10	PK-12	S	260 Walton St	Baconton	31716	229-787-9999	Lynn Pinson	Beauford Hicks	6-30-10
1	Berrien Academy Charter School	Berrien County	March-05	August-05	7-31-10	9-12	LS	1015 Exum St	Nashville	31639	229-686-6576	Chris Huckans	Mike Bochenko	7-31-10
1	Bishop Hall Charter School	Thomas County	May-99	July-99	06-30-14	9-12	LS	1819 E Clay St	Thomasville	31792	229-227-1397	Rich Johnson	Dr. Jean Quigg	06-30-14
1	Brighten Academy	Douglas County	June-05	August-06	7-31-11	K-8	S	3264 Brookmont Pkwy	Douglasville	30135	770-615-3675	Soundra Pollocks	Donald Remillard	7-31-11
1	Carroll County College and Career Academy	Carroll County	April-09	Projected to Open Fall 2010	06-30-19	9-12	LS	1075 Newnan Hwy.	Carrollton	30116	770-832-3568	Not Chosen at this time	John Zauner	06-30-19
1	Central Educational Center	Coweta County	May-99	August-00	06-30-19	9-12	LS	160 Martin Luther King Jr Dr	Newnan	30263	678-423-2000	Mark Ballou	Blake Blass	06-30-19

Appendix F4: GA Charter School Activity Each Year

#	Charter School / System	County / District	Charter Initially Approved	Charter Opened/ Converted	Charter Term Expires	Grades	Type	School Address	City	Zip	Telephone	Principal / Director	Superintendent	Current Term Ends
1	Challenge Charter Academy	Newton County	February-08	August-08	6-30-13	6-12	S	8134 Geiger St, NW	Covington	30014	TBD	TBD	Dr. Steven Whatley	6-30-13
1	Chamblee Charter High School	DeKalb County	December-00	August-01	06-30-14	9-12	C	3688 Chamblee-Dunwoody Rd	Chamblee	30341	678-676-6903	Rochelle Lowery	Dr. Crawford Lewis	06-30-14
1	Charter Conservatory for Liberal Arts & Technology	Bulloch County (Commission)	July-01	August-02	6-30-12	5-12	Commission	149 Northside Dr East	Statesboro	30458	912-764-5888	Dr. Kathy Harwood	N/A	6-30-12
1	Chattahoochee County High School	Chattahoochee County	August-05	August-05	7-31-10	9-12	LS	360 Highway 26	Cusseta	31805	706-989-3678	James Sims	Dalton Oliver	7-31-10
1	Chesnut Elementary	DeKalb County	April-00	August-01	06-30-14	PK-5	C	4576 N Peachtree Rd	Dunwoody	30338	678-676-7102	Dr. Richard Reid	Dr. Crawford Lewis	06-30-14
6	City Schools of Decatur		June-08	August-08	6-30-13	K-12	CS	785 Scott Blvd	Decatur	30030	404-370-4400	N/A	Dr. Phyllis Edwards	
1	Clubview Elementary	Muscogee County	September-06	October-06	6-30-11	PK-5	C	2836 Edgewood Rd	Columbus	31906	706-565-3017	Adele Lindsey	Dr. Susan Andrews	6-30-11
1	Coastal Empire Montessori	Chatham County	October-06	August-08	6-30-11	PK-5	S	301 Buckhalter Road	Savannah	31405	912-238-1973	Tricia Moseley	Dr. Thomas Lockamy	6-30-11
1	DeKalb Academy of Technology & the Environment	DeKalb County	June-05	August-05	6-30-11	K-7	S	1833 S Stone Mountain-Lithonia Rd	Lithonia	30058	770-484-5865	Maury Wills	Dr. Crawford Lewis	6-30-11
1	DeKalb PATH Academy	DeKalb County	April-02	July-02	6-30-10	5-8	S	3007 Hermance Dr	Atlanta	30319	404-846-3242	Suttiwan Cox	Dr. Crawford Lewis	6-30-10
1	Dooly Co. Charter High School	Dooly County	March-06	August-06	6-30-11	9-12	C	712 Third St North	Vienna	31092	229-268-8181	Randolph Ford	Dr. John Bembry	6-30-11
1	Dougherty Comprehensive High School	Dougherty County		August-08	6-30-11	9-12	C	1800 Pearce Ave	Albany	31705	229-431-3310	Horace Reid, Jr.	Dr. Sally Whatley	6-30-11
1	Dougherty International Education Middle School	Dougherty County		August-08	6-30-11	6-8	C	1800 Massey Dr	Albany	31705	229-431-3328	Thelma Chunn	Dr. Sally Whatley	6-30-11
1	Douglas Co. College & Career Institute	Douglas County	February-07	August-07	6-30-16	9-12	LS-CA	9030 Highway 5	Douglasville	30134	770-651-2081	Judy Scherer	Donald Remillard	6-30-16
1	Drew Charter School	APS	August-99	August-00	7-31-10	K-8	S	301 East Lake Blvd	Atlanta	30317	404-687-0001	Don Doran	Dr. Beverly Hall	7-31-10
1	Dunwoody Springs Elementary School	Fulton County	March-05	August-05	7-31-10	PK-5	C	8100 Roberts Dr	Atlanta	30350	770-673-4060	Ivy Gainey	Dr. Cindy Loe	7-31-10

Appendix F4: GA Charter School Activity Each Year

#	Charter School / System	County / District	Charter Initially Approved	Charter Opened/ Converted	Charter Term Expires	Grades	Type	School Address	City	Zip	Telephone	Principal / Director	Superintendent	Current Term Ends
1	Eastwood Academy	Muscogee County		Not Open	6-30-12	K-8	S	6003 Veterans Parkway	Columbus	31909	706-323-5364	Dr. Ronald Cottle	Dr. Susan Andrews	6-30-12
1	Effingham Career Academy	Effingham County		Projected to Open Fall 2010	6-30-13	10-12	LS	405 North Ash Street	Springfield	31329	912-754-5508	Not Chosen at this time	Randy Shearouse	6-30-13
1	Effingham Gateway to College Academy	Effingham County		August-08	6-30-13	9-12	S	2890 Hwy 21 South	Rincon	31326	TBD	Sandra Jenkins	Randy Shearouse	6-30-13
1	Fargo Charter School	Clinch County	February-00	August-00	7-31-10	K-3	LS	80 City Hall Dr	Fargo	31631	912-637-5466	Danny Ellis	Dr. Gayle Hughes	7-31-10
1	Floyd County Schools College & Career Academy	Floyd County	January-08	August-08	6-30-18	9-12	LS-CA	100 Tom Poe Drive	Rome	30161	706-236-1860	Frank Pinson	Dr. Lynn M. Plunkett	6-30-18
1	Forsyth County Academy	Forsyth County	May-05	August-05	6-30-15	9-12	LS	7745 Majors Rd	Cumming	30041	770-781-3141	Brad Smith	Paula Gault	6-30-15
1	Fulton Leadership Academy	Fulton County (State Special Charter)				6-12	SS	P.O. Box 311308	Atlanta	31131	404-472-3529	Richardean Anderson	N/A	06-30-14
1	Fulton Science Academy	Fulton County	May-01	August-02	6-30-12	6-8	S	1675 Hembree Rd	Alpharetta	30004	770-753-4141	Mr. Kenan Sener	Dr. Cindy Loe	6-30-12
1	Futral Road Elementary	Spalding County	November-98	August-98	6-30-12	PK-5	C	180 Futral Rd	Griffin	30224	770-229-3735	Larry Jones	Dr. Jesse Bradley	6-30-12
7	Gainesville City School System		June-08	August-08	6-30-13	K-12	CS	508 Oak St	Gainesville	30501	770-536-5275, ext. 19	N/A	Dr. Steven Ballowe	6-30-13
1	Gateway to College Academy School	DeKalb County	March-05	August-05	7-31-08	10-12	S	3251 Panthersville Rd	Decatur	30034	678-891-3220	Robert Wigfall	Dr. Crawford Lewis	7-31-08
1	Golden Isles Career Academy	Glynn County	February-08	August-08	6-30-18	9-12	LS-CA	4404 Glynco Parkway	Brunswick	31525	912-280-4000	Dr. Ralph Gornto	Dr. Howard Mann	6-30-18
1	Gwinnett Charter School of Advanced Mathematics, Science, & Technology	Gwinnett County		August-07	6-30-16	9-12	LS	100 Building, 3737 Brock Rd	Duluth	30096	678-473-6292	Jeffrey Mathews	J. Alvin Willbanks	6-30-16
1	Habersham Career Academy	Habersham County		Will Not open	6-30-13	9-12	LS-CA	Will Not Open	Clarkesville	TBD	TBD	TBD	Dr. Judy Forbes	6-30-13
1	Hapeville Charter School	Fulton County	March-04	August-04	06-30-14	6-12	S	3535 S. Fulton Avenue	Hapeville	30354	404-767-7730	Mr. Jannard Rainey	Dr. Cindy Loe	06-30-14
1	Houston County Career Academy	Houston County	April-09	Fall 2009	06-30-19	9-12	LS	1311 Corder Road	Warner Robbins	31088	478-988-6200	Not Chosen at this time	David Carpenter	06-30-19

Appendix F4: GA Charter School Activity Each Year

#	Charter School / System	County / District	Charter Initially Approved	Charter Opened/ Converted	Charter Term Expires	Grades	Type	School Address	City	Zip	Telephone	Principal / Director	Superintendent	Current Term Ends
1	Imagine International Academy of Mableton	Cobb County	February-07	August-07	6-30-12	K-8	S	6688 Mableton Parkway	Mableton	30126	678-384-8920	Michael Rossano	Fred Sanderson	6-30-12
1	Imagine International Academy of Smyrna	Cobb County	February-07	July-07	6-30-12	K-8	S	4451 South Atlanta Road, Suite 200	Smyrna	30080	678-370-0980	Gloria Clarke	Fred Sanderson	6-30-12
1	Imagine Wesley International Academy	APS	May-07	August-07	6-30-12	K-8	S	1049 Custer Ave SE	Atlanta	30316	678-904-9137	Mridula Hormes	Dr. Beverly Hall	6-30-12
1	International Community School	DeKalb County	February-01	August-02	06-30-14	K-5	S	3260 Covington Hwy	Decatur	30032	404-499-8969	Laurent Ditmann	Dr. Crawford Lewis	6-30-09
1	International Studies Elementary Charter School	Dougherty County		August-05	6-30-13	K-5	C	2237 Cutts Drive	Albany	31705	229-431-3384	Zeda George	Dr. Sally Whatley	6-30-13
1	Ivy Preparatory Academy	Gwinnett County (Commission)		August-08	6-30-13	6-12	Commission	3705 Engineering Dr.	Norcross	30092	770-448-6273	Nina L. Gilbert	N/A	6-30-13
1	Jenkins-White Elementary School	Richmond County		August-07	6-30-11	PK-5	C	800 15th Avenue	Augusta	30901	706-737-7320	Marva Tutt	Dr. Dana T. Bedden	6-30-11
1	Kennesaw Charter School	Cobb County	May-02	August-03	06-30-10	K-5	S	1370 Lockhart Drive	Kennesaw	30144	678-290-9628	Mridula Hormes	Fred Sanderson	6-30-10
1	Kingsley Elementary School	DeKalb County	August-98	August-98	6-30-10	PK-5	C	2051 Brendon Drive	Dunwoody	30338	678-874-8903	Karen Graham	Dr. Crawford Lewis	6-30-10
1	KIPP South Fulton Academy	Fulton County	February-03	July-03	6-30-08	5-8	S	1286 East Washington Ave	East Point	30344	678-278-0160		Dr. Cindy Loe	6-30-08
1	KIPP STRIVE Academy	APS	April-09	August-09	06-30-14	5-8	S	1444 Lucile Ave SW	Atlanta	30310	404-449-5383	Edwin Chang	Dr. Beverly Hall	06-30-14
1	KIPP West Atlanta Young Scholars Academy (KIPP WAYS)	APS	January-03	July-03	6-30-11	5-8	S	80 Joseph E. Lowery Blvd NW	Atlanta	30314	404-475-1941	Kimberly Karacalidis	Dr. Beverly Hall	6-30-11
1	Lake Oconee Academy	Greene County	July-07	August-07	6-30-17	K-12	S	5800 Lake Oconee Pkwy	Greensboro	30642	919-478-6182	Otho Tucker	Dr. Barbara Pulliam	6-30-17
1	Lanier Charter Career Academy	Hall County	March-09	Fall 2009	06-30-19	9-12	LS	2723 Tumbling Creek Road	Gainesville	30504	770-534-1080	Not Chosen at this time	Will Schofield	06-30-19
1	Lewis Academy of Excellence	Clayton County	January-05	September-05	7-31-10	K-5	S	8009 Carlton Rd	Riverdale	30296	770-909-6697	Zandra Perrymon	Dr. Edmond Heatley	7-31-10
1	Marietta Charter School	Marietta City	November-04	August-06	6-30-10	K-5	S	368 Wright St	Marietta	30064	770-590-4430	Christy Tureta	Dr. Emily Lembeck	6-30-10

Appendix F4: GA Charter School Activity Each Year

#	Charter School / System	County / District	Charter Initially Approved	Charter Opened/ Converted	Charter Term Expires	Grades	Type	School Address	City	Zip	Telephone	Principal / Director	Superintendent	Current Term Ends
9	Marietta City Schools		June-08	August-08	6-30-13	K-12	CS	250 Howard St	Marietta	30060	770-429-3100	N/A	Dr. Emily Lembeck	6-30-13
1	Morgan County Charter High School	Morgan County	June-08	August-08	6-30-13	9-12	C	1231 College Dr	Madison	30650	706-342-2336	Mark Wilson	Dr. Stanley DeJarnett	6-30-13
1	Morgan County Elementary School	Morgan County	August-05	August-05	7-31-10	3-5	C	1640 Buckhead Rd	Madison	30650	706-342-5039	Jean Triplett	Dr. Stanley DeJarnett	7-31-10
1	Morgan County Middle School	Morgan County	March-07	August-07	6-30-10	6-8	C	920 Pearl St	Madison	30650	706-342-0556	Dr. Joe Hutcheson	Dr. Stanley DeJarnett	6-30-10
1	Morgan County Primary School	Morgan County	August-05	August-05	7-31-10	K-2	C	993 East Ave	Madison	30650	706-342-3475	Dr. Betsy Short	Dr. Stanley DeJarnett	7-31-10
1	Mountain Education Center	Intergovernmental*		July-07	6-30-16	9-12	SS	218 School St	Blairsville	30512	706-864-0229	Mitchel Barrett	N/A	6-30-16
1	Murphey Charter Middle School	Richmond County		August-07	6-30-12	6-8	C	2610 Milledgeville Rd	Augusta	30904	706-737-7353	Veronica Bolton	Dr. Dana T. Bedden	6-30-12
1	Neighborhood Charter School	APS	April-01	August-02	6-30-17	K-5	S	688 Grant Street SE	Atlanta	30315	404-624-6226	Jill Kaechele	Dr. Beverly Hall	6-30-17
1	New Life Academy of Excellence	Gwinnett County		August-07	06-30-12	K-8	S	3159 Campus Drive, Suite 100	Norcross	30071	770-248-3032	Alphonsa Foward	J. Alvin Willbanks	06-30-12
1	North Springs High School	Fulton County	March-07	August-07	6-30-12	9-12	C	7447 Roswell Road	Atlanta	30328	770-551-2490	Lisa Stueve	Dr. Cindy Loe	6-30-12
1	Odyssey School	Coweta County (State Special Charter)		August-04	7-31-09	K-5	SS	1485 Hwy. 34E, Suite B-1	Newnan	30265	678-423-5155	Andy Geeter	N/A	7-31-09
1	Oglethorpe Charter School	Chatham County		August-99	6-30-11	6-8	S	707 Stiles Avenue	Savannah	31415	912-201-5075	Kevin Wall	Dr. Thomas Lockamy	6-30-11
1	Peachtree Charter Middle School	DeKalb County	May-01	July-01	6-30-10	6-8	C	4664 North Peachtree Road	Dunwoody	30338	678-676-7702	Steve Donahue	Dr. Crawford Lewis	6-30-10
1	Reese Road Leadership Academy	Muscogee County		June-09	6/30/14	PK-5	C	3100 Reese Road	Columbus	31907	706-569-3684	Jeanella Pendleton	Dr. Susan Andrews	
1	Ridgeview Charter Middle School	Fulton County	June-06	August-06	6-30-11	6-8	C	5340 Trimble Road	Atlanta	30342	404-843-7710	Karen Cox	Dr. Cindy Loe	6-30-11
1	Riverwood Int'l Charter School	Fulton County	June-08	August-08	6-30-13	9-12	C	5590 Heards Dr NW	Atlanta	30328	404-847-1980	Edward Echols	Dr. Cindy Loe	6-30-13

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#	Charter School / System	County / District	Charter Initially Approved	Charter Opened/ Converted	Charter Term Expires	Grades	Type	School Address	City	Zip	Telephone	Principal / Director	Superintendent	Current Term Ends
1	Rockdale Career Academy	Rockdale County		July-06	6-30-11	10-12	LS	954 North Main St	Conyers	30012	404-860-4257	Timothy Melvin	Dr. Sam King	6-30-11
1	Sandy Springs Charter Middle	Fulton County	June-09	June-09	06/30/14	6-8	C	8750 Colonel Drive	Atlanta	30350	770-552-4970	Kay Walker	Dr. Cindy Loe	
1	Sardis Enrichment School	Hall County	June-09	June-09	6/30/14	K-5	C	711 Green Street	Gainesville	30501	770-532-0104	Janet Hughes		
1	Savannah Gateway to College Academy	Chatham	April-08	August-08	6-30-13	9-12	S	5717 White Bluff Road	Savannah	31405	TBD	Dr. Sandra Jenkins	Dr. Thomas Lockamy	6-30-13
1	Sawyer Road Elementary School	Marietta City Schools		August-07	6-30-12	K-5	C	840 Sawyer Rd	Marietta	30062	770-429-9923	Jill Sims	Dr. Emily Lembeck	6-30-12
1	Scholars Academy Charter School	Clayton County (State Special Charter)		August-08	6-30-13	K-5	SS	6390 Church St	Riverdale	30274	770-756-9710	Elsa Celestine	N/A	6-30-13
1	Sedalia Park Elementary School	Cobb County	July-96	August-96	6-30-11	K-5	C	2230 Lower Roswell Rd	Marietta	30068	770-509-5162	Dr. Patty Thomas	Fred Sanderson	6-30-11
1	Smoke Rise Elementary	DeKalb County	June-09	June-09	June-14	PK-5	C	1991 Silver Hill Road	Stone Mountain	30087	678-874-3602	Aaron Moore		
1	South Eastern Early College & Career Academy	Montgomery Counties*			06-30-14	9-12	LS	3001 East First Street	Vidalia	30474	912-538-3177	Not Chosen at this time		
1	Spalding Drive Elementary School	Fulton County	April-03	August-04	06-30-14	PK-5	C	130 W Spalding Dr NE	Atlanta	30328	770-756-9710	Christine Young	Dr. Cindy Loe	06-30-14
1	T.E.A.C.H School	Fulton County	March-05	August-06	7-31-10	9-12	S	4100 Old Milton Pkwy	Alpharetta	30005	770-475-7824 x 2024 for principal	Avni Cokavci	Dr. Cindy Loe	7-31-10
1	Tech High School	APS	August-03	August-04	06-30-14	9-12	S	1043 Memorial Dr SE	Atlanta	30316	678-904-5091	Elisa A. Falco	Dr. Beverly Hall	06-30-14
1	Technical Career Academy	Oglethorpe County		September-02	6-30-16	11-12	S	800 U.S. Highway 29 North	Athens	30608	706-369-5871	Douglas Bolen	Dr. Jeffery Welch	6-30-16
1	The Elite Scholars Academy	Clayton County	April-09	July-09	06-30-14	6-12	LS	137 Spring Street	Jonesboro	30236	678-920-1536	Dr. Grayson Wells	Dr. Edmond Heatley	06-30-14
1	The P.R.E.P. Academy	Thomas County	April-08	Projected to Open Fall 2010	6-30-13	9-12	LS	4685 US 84 Bypass	Thomasville	31792	229-225-5050	Lee Bailey	Dr. Jean Quigg	6-30-13
1	Unidos Dual Language Charter School	Clayton County	April-06	August-06	7-31-11	K-5	LS	4475 Hendrix Dr	Forest Park	30297	404-361-3494	Nancy Said	Dr. Edmond Heatley	7-31-11

Appendix F4: GA Charter School Activity Each Year

#	Charter School / System	County / District	Charter Initially Approved	Charter Opened/ Converted	Charter Term Expires	Grades	Type	School Address	City	Zip	Telephone	Principal / Director	Superintendent	Current Term Ends
1	University Community Academy	APS	March-02	August-02	6-30-12	K-8	S	2050 Tiger Flower Dr NW	Atlanta	30314	404-753-4050	Dr. Jim Harris	Dr. Beverly Hall	6-30-12
1	Walton Career Academy	Walton County	June-05	July-06	6-30-11	10-12	LS-CA	212 Bryant Rd	Monroe	30655	770-266-4485	Mark Peevy	Dr. Tim Lull	6-30-11
1	Walton Comprehensive High School	Cobb County	June-98	August-98	6-30-11	9-12	C	1590 Bill Murdock Rd	Marietta	30062	770-578-3225	Judith McNeill	Fred Sanderson	6-30-11
3	Warren County Schools	Warren County	June-08	August-08	6-30-13	PK-12	CS	85 Edward Ricketson Jr. St	Warrenton	30828	706-465-3383	N/A	Carole Jean Carey	6-30-13
1	Webster County High School	Webster County	June-07	July-07	6-30-12	9-12	LS	7168 Washington St	Preston	31824	229-828-3315	John Greene	John Greene, Interim	6-30-12
1	Whitfield County Career Academy	Whitfield County	March-05	August-05	6-30-10	10-12	LS-CA	2300 Maddox Chapel Rd	Dalton	30721	706-876-3600	Phillip Brown	Katie Brochu	6-30-10
1	Woodland Elementary Charter School	Fulton County	March-01	August-01	6-30-11	PK-5	C	1130 Spalding Dr	Atlanta	30350	770-551-5890	Ruth Baskerville	Dr. Cindy Loe	6-30-11
1	World Language Academy at Chestnut Mountain	Hall County	June-08	August-08	6-30-18	K-5	C	4670 Winder Hwy	Flowery Branch	30542	770-967-5856	Susan Vaughn	Will Schofield	6-30-18
1	Wynnton Arts Academy	Muscogee County		August-08	6-30-18	PK-5	C	2303 Wynnton Rd	Columbus	31906	706-748-3147	Nancy Johnson	Dr. Susan Andrews	6-30-18

Appendix F5: SBOE Charter School Rules

Code: IEB

160-4-9-.04 CHARTER SCHOOLS.

(1) DEFINITIONS.

(a) **Charter** – a performance-based contract between the charter authorizer(s) and a charter petitioner. By entering into a charter, a charter petitioner and the charter authorizer(s) shall be deemed to have agreed to be bound to all the provisions of the Charter Schools Act and this Rule as if such terms were set forth in the charter.

(b) **Charter advisory committee** – a committee established by the State Board of Education (SBOE) to make recommendations to the SBOE regarding approval or denial of charter petitions, charter policy, and the disbursement of planning grants for charter systems.

(c) **Charter attendance zone** – all or any portion of the local school system in which the charter school is located and may include all or any portion of other local school systems if the charter school is jointly authorized pursuant to O.C.G.A. § 20-2-2063(c).

(d) **Charter authorizer** – a local school board, the SBOE, or the Georgia Charter School Commission (Commission).

(e) **Charter petitioner** – a local school, local board of education, private individual, private organization, or state or local public entity that submits a petition for a charter. The term "charter petitioner" does not include home study programs or schools, sectarian schools, religious schools, private for profit schools, private educational institutions not established, operated, or governed by the State of Georgia, or existing private schools.

(f) **Charter school** – a public school that is operating under the terms of a charter.

(g) **Charter system** – a local school system that is operating under the terms of a charter.

(h) **Commission** – the Georgia Charter Schools Commission as established by O.C.G.A. § 20-2-2082.

(i) **Commission charter school** – a start-up charter school authorized by the Commission and that is operating under the terms of a charter between a charter petitioner and the Commission.

(j) **Conversion charter school** – a charter school that existed as a local school prior to becoming a charter school.

(k) **Faculty and instructional staff members** – all certificated personnel assigned to the school on a full-time basis and all paraprofessionals assigned to the school on a full-time basis. The term "paraprofessional" shall have the same meaning as set out in O.C.G.A. § 20-2-204.

(l) **Fiscal agent** – the entity responsible for the financial control and management of the

charter school or schools. For state chartered special schools and commission charter schools, the school will act as its own fiscal agent.

(m) **Full-Time Equivalent Program Count (FTE)** – a student count consisting of six state funded segments per student authorized under O.C.G.A. § 20-2-161.

(n) **Governing council** – a school-level council of parents, teachers, administrators, and others who are involved in school-level governance within a charter system.

(o) **High school cluster** – a public high school and all of the public middle and public elementary schools which contain students who matriculate to such high school. The schools in a high school cluster may include charter schools, local schools, or a combination of both.

(p) **Jointly authorized charter school** – a charter school or high school cluster charter authorized by more than one local board and operating under the financial oversight of a designated fiscal agent.

(q) **LEA start-up charter school** – a charter school that did not exist as a local school prior to becoming a charter school and which was created by a local board as part of the existing local school system. The charter petitioner is the local board.

(r) **Local board** – a county or independent board of education exercising control and management of a local school system pursuant to Article VIII, Section V, Paragraph II of the Georgia Constitution.

(s) **Local charter school** – a start-up charter school, an LEA start-up charter school, a high school cluster, a jointly authorized charter school, or a conversion charter school that is operating under the terms of a charter between the charter petitioner, the local board, and the SBOE.

(t) **Local revenue** – local taxes budgeted for school purposes in excess of the local five mill share, combined with any applicable equalization grant and budgeted revenues from any of the following: investment earnings, unrestricted donations, and the sale of surplus property; but exclusive of revenue from bonds issued for capital projects, revenue to pay debt service on such bonds, and local option sales tax for capital projects. Nothing in this paragraph shall be construed to prevent a local board from including a local charter school in projects specified in the ballot language of a local option sales tax or bond referendum.

(u) **Local school** – a public school in Georgia that is under the management and control of a local board.

(v) **Local school system** – the system of public schools established and maintained by a local board within its limits pursuant to Article VIII, Section V, Paragraph I of the Georgia Constitution.

(w) **Petition** – a proposal to establish a charter school or a charter system.

(x) **QBE formula earnings** – funds earned for the Quality Basic Education Formula pursuant

to O.C.G.A. § 20-2-161, including the portion of such funds that are calculated as the local five mill share in accordance with O.C.G.A. § 20-2-164.

(y) **Qualified charter school contributions** – the donation of funds by a taxpayer to a qualified charter school organization for the purchase of real property and for capital outlay for a charter school.

(z) **Qualified charter school organization** – a charitable organization in this state that is exempt from federal income taxation under Section 501(c)(3) of the Internal Revenue Code which is approved by the SBOE to provide funds for the purchase of real property for capital outlay for charter schools in this state.

(aa) **School-level governance** – decision-making authority in personnel decisions, financial decisions, curriculum and instruction, resource allocation, establishing and monitoring the achievement of school improvement goals, and school operations.

(bb) **Special school** – a school whose creation is authorized pursuant to Article VIII, Section V, Paragraph VII of the Georgia Constitution.

(cc) **Start-up charter school** – a charter school that did not exist as a local school prior to becoming a charter school. The petitioner is not the local board.

(dd) **State chartered special school** – a charter school created as a special school that is operating under the terms of a charter between the charter petitioner and the SBOE and which acts as its own public Local Education Agency for accountability purposes.

(ee) **System charter school** – a school within a charter system.

(ff) **Virtual charter school** – a charter school that offers full-time enrollment and elementary or secondary education through Internet-based methods, with time and/or distance separating the teacher and the learner.

(2) RESPONSIBILITIES OF CHARTER AUTHORIZERS.

(a) Local boards shall control and manage local charter schools, pursuant to O.C.G.A. § 20-2-2065(b)(2). At a minimum, this control and management shall include the following responsibilities:

1. Review and act on local charter school petitions;

2. Enforce clear expectations for, and ensure achievement of, performance goals set forth in the charters;

3. Review annual budgets for local charter schools;

4. Ensure that local charter schools comply with the accountability provisions of O.C.G.A. § 20-14-30 *et seq.* and federal accountability requirements;

5. Evaluate a local charter school's performance in relation to the expectations and goals set forth in the charter and take appropriate action based on this evaluation;

6. Distribute applicable federal, state, and local funding to local charter schools in a timely manner and in accordance with law and ensure that funds are spent according to applicable laws, rules, policies, and guidelines, including requirements for the monitoring of the use of federal funds; and

7. Ensure that the requirements of the Individuals with Disabilities Education Act (IDEA) are met. The local board must have a plan to ensure that the local system shall:

(i) Serve students with disabilities attending the local charter school in the same manner as it serves all other students with disabilities in its other local schools;

(ii) Provide funds to local charter schools on the same basis as it provides funds to its other local schools, including proportional distribution based on relative enrollment of children with disabilities; and

(iii) Nothing in this section shall prevent a local board from providing services to students with disabilities at a central location, if that is standard practice for students with disabilities from other local schools in the local school system.

(b) The SBOE shall have the following supervisory duties pursuant to O.C.G.A. § 20-2-2063:

1. Review and act on local charter school petitions and state chartered special school petitions;

2. Ensure the provision of technical assistance to local school systems in successfully administering their responsibilities as described in (2)(a) above;

3. Ensure the provision of technical assistance to petitioners submitting planning grants, implementation grants, facilities grants, charter petitions, petition renewal applications, and any other programs authorized by applicable law;

4. Create and maintain a strategic plan and policy for the state's charter schools program;

5. Manage any applicable federal grant awarded to the state for use by the state's charter schools;

6. Provide an annual report on the status of the state's charter schools program to the General Assembly by December 31, pursuant to O.C.G.A. § 20-2-2070; and

7. Exercise control and management for state chartered special schools in the same manner as described in (2)(a) above.

(c) The Commission shall have the following responsibilities:

1. Approve or deny petitions for commission charter schools, including any amendments

thereto, and renew, nonrenew, or terminate commission charter school petitions in accordance with SBOE rules and regulations;

2. Actively seek supplemental revenue from federal grant funds, institutional grant funds, and philanthropic organizations to support commission charter schools; and

3. Pursuant to O.C.G.A. § 20-2-2088, the chairperson of the Commission shall report annually to the SBOE on the academic performance and fiscal responsibility of all commission charter schools at the January meetings of the SBOE, beginning with the January meeting following the first school year completed by a commission charter school

4. Pursuant to O.C.G.A. § 20-2-2090(3)(A), if the Commission determines that the proportional share of local revenue provided to a commission charter school should be reduced based on factors that affect the cost of providing instruction, the Commission shall forward that recommendation to the Georgia Department of Education ("the Department") for consideration and application in accordance with SBOE rules and regulations.

5. In calculating the proportional share of local revenue required to be paid to commission charter schools under O.C.G.A. § 20-2-2090(3)(A), the Department shall use the calculation method provided for determining local revenue for start-up charter schools pursuant to O.C.G.A. § 20-2-2068.1(c).

6. In making a recommendation, if any, as described in 2(c)(4) above, the Commission shall have no authority to recommend that the proportional share of local revenue provided to a commission charter school should exceed the amount determined by the Department based on the calculation called for in 2(c)(5) above.

(3) CHARTER PETITION PROCESS.

(a) LETTERS OF INTENT. Letters of intent to submit a charter petition shall be submitted to the Department in accordance with Guidance accompanying this rule and to the appropriate local board(s) at least six months prior to the date on which the petition must be submitted to the Department. A letter of intent is not required for renewal petitions. The letter of intent is for notice purposes only and the Department shall clarify the application of this requirement in specific circumstances.

(b) PLANNING GRANTS. Applications for state funded planning grants shall be submitted to the Department in accordance with timelines established by the Department and provided in Guidance accompanying this Rule.

(c) CHARTER PETITIONS TO LOCAL BOARDS. Local boards may adopt policies regarding submission of charter petitions which are consistent with the timeline and requirements for charter petitions set forth in this Rule and Guidance accompanying this Rule; provided, however, that the Department may review local board rules to ensure uniform application of this Rule.

1. Pursuant to O.C.G.A. § 20-2-2064(a) and (b), a local board must by a majority vote approve or deny a petition no later than sixty (60) days after its submission unless the petitioner requests an extension.

2. If a local board denies a petition, the local board must within sixty (60) days thereafter specifically state the reasons for the denial, list the deficiencies in the petition relevant to O.C.G.A. § 20-2-2063, and provide a written statement of the denial to the petitioner and the SBOE.

3. If a local board denies a petition, the petitioner shall not be precluded from submitting a revised petition to the local board that addresses the deficiencies cited in the denial.

4. If a local board approves a petition, the local board must within thirty (30) days deliver the approved petition along with the required state application to the Department for review by the SBOE.

(d) CHARTER PETITIONS TO THE DEPARTMENT OF EDUCATION. Under O.C.G.A. § 20-2-2064.1, the Department shall establish annual timelines, page limitations and formatting requirements. Charter petitions must be submitted in accordance with timelines established by the Department and provided in Guidance accompanying this Rule.

(e) CHARTER PETITIONS TO THE COMMISSION. Prior to accepting petitions, the Commission shall be appointed and consist of seven (7) appointed members as set forth in O.C.G.A. § 20-2-2082 and one (1) ex officio member who shall be appointed by the Department. The ex officio member shall be a non-voting member, but shall otherwise participate in Commission meetings and business. After the Commission has been appointed, the Commission shall determine the manner in which it will begin accepting and reviewing commission charter school petitions. The Commission may adopt policies regarding submission of charter petitions which are consistent with the timelines and requirements for charter petitions set forth in this Rule and Guidance accompanying this Rule.1. Proposed commission charter schools that plan to enroll students from five (5) or more counties are not required to submit a petition to the local boards in which the school will be located or from which the school intends to enroll students, but may apply directly to the Commission.

2. Pursuant to O.C.G.A. § 20-2-2086, existing local charter schools and state chartered special schools may submit a petition to the Commission if the current charter will expire prior to entering into a new charter with the Commission or if the local board or SBOE has rescinded or waived the obligations in an existing charter. Existing charter schools shall notify the Department of the intent to seek commission charter school status by submitting a letter to the Department in accordance with Guidance accompanying this Rule.

(f) IMPLEMENTATION GRANTS. Applications for federally-funded implementation grants shall be submitted to the Department in accordance with timelines established by the Department and provided in Guidance accompanying this Rule.

(4) CHARTER PETITION REVIEW PROCEDURES.

(a) Department staff shall process all charter petitions and coordinate with the Charter Advisory Committee and the Commission, as applicable, to facilitate their review and recommendations.

(b) Department staff shall make recommendations to the SBOE or the Commission, as appropriate, of approval or denial on each charter petition and shall specify the reasons for such recommendations.

(5) CHARTER PETITION REQUIREMENTS.

(a) START-UP CHARTER PETITIONS. All start-up charter school petitions, including commission charter school petitions, shall meet the following minimum requirements pursuant to O.C.G.A. § 20-2-2063. Nothing in this Rule shall be construed to prevent the establishment of a charter school as a separate entity within an existing local school, provided that the charter school meets all other requirements of Rule and law.

1. STATEMENT OF INTENT. A description of how the proposed charter school promotes the legislative intent of the charter schools program to "increase student achievement through academic and organizational innovation," in accordance with O.C.G.A. § 20-2-2061.

2. STATEMENT REGARDING WAIVERS. A statement that the school either shall or shall not utilize the broad flexibility from law, rule, and regulation permitted by O.C.G.A. § 20-2-2065(a).

(i) Petitioners who will utilize the broad flexibility shall state that the school agrees to comply with all requirements of the Single Statewide Accountability System and shall meet or exceed the performance-based goals included in the charter, including but not limited to raising student achievement. The petition shall include illustrative examples of how the charter school will implement the flexibility to meet or exceed the performance-based goals and to increase student achievement.

(ii) Petitioners who will not utilize the broad flexibility shall enumerate specifically requested waivers in the petition. The petition shall state the rationale for each waiver, including how each waiver shall help the school meet or exceed the performance-based goals and increase student achievement.

(iii) Subject to any waivers requested and subsequently granted by any authorizer, state chartered special schools and commission charter schools shall be considered a separate LEA and shall, to the extent required by law and the charter, state that the school shall comply with all reporting and other requirements applicable to LEAs under statute and SBOE rules and regulations.

3. STATEMENT OF GOALS AND OBJECTIVES. The petition must list and describe in detail the specific performance-based goals and measureable objectives, which at a minimum

shall include goals and objectives that are related to the state and federal assessment standards, measurable on at least on annual basis, attainable, and reflect the mission set forth in the petition. The petition shall demonstrate that the performance-based goals and measurable objectives will result in continuous improvement in student achievement and will comply with the Single Statewide Accountability System. Failure to meet the specific performance-based goals and measurable objectives may result in charter termination.

4. PARENTAL AND COMMUNITY INVOLVEMENT. A description of how parents, members of the community, and other interested parties contributed to the development of the petition and how they will be involved in the school.

5. DESCRIPTION OF THE EDUCATIONAL PROGRAM. A description of the following components of the school's educational program, including an explanation of how these components shall contribute to the achievement of the performance-based goals and measurable objectives:

(i) The school's mission;

(ii) The ages and grades to be included;

(iii) The focus of the curriculum;

(iv) Instructional methods to be used, including any distinctive or unique instructional techniques or educational programs to be employed;

(v) For students with disabilities, a description of how the school shall provide state and federally-mandated services and comply with all special education laws, including Section 504 of the Rehabilitation Act of 1973, Title II of the Americans With Disabilities Act, and the IDEA;

(vi) For English Language Learners, a description of how the school shall provide state and federally-mandated services;

(vii) Anticipated teacher-to-student ratio and the rationale for maintaining this ratio;

(viii) The extracurricular or other auxiliary educational activities that may be offered at the school, including any partnerships with the local board or other community agencies regarding charter school students utilizing extracurricular activities at the local school that the student would otherwise attend;

(ix) How the school will meet the needs of students identified as gifted and talented;

(x) How the school shall provide for supplemental educational services as required by federal law and pursuant to SBOE Rule 160-4-5-.03, and for remediation in required cases pursuant to SBOE Rule 160-4-5-.01; and

(xi) The school's proposed annual calendar and a draft daily school schedule.

6. DESCRIPTION OF ASSESSMENT METHODS. A description of the school's student assessment plan, including the following components:

(i) A statement detailing how the school shall comply with the accountability provisions of O.C.G.A. § 20-14-30 through § 20-14-41 and federal accountability requirements, including the manner in which the school shall work with the authorizer(s) to participate in statewide assessments.

(ii) A plan to obtain student performance data for each student, which shall include how the current baseline standard of achievement shall be determined in order to meet the petition's performance-based goals and measurable objectives. For the charter school's first year, baseline student achievement data shall be collected within three months of the first day of school. This data may include, but is not limited to, standardized assessment results from previous school years.

(iii) How assessment shall measure improvement and over what period of time.

(iv) The school's plan for using assessment data to monitor and improve achievement for all students.

(v) For charter high schools, a description of the method for determining that a student has satisfied the requirements for high school graduation as defined in SBOE Rule 160-4-2-.47.

7. DESCRIPTION OF SCHOOL OPERATIONS. A description of the school's operations and management plan, including the following components:

(i) The proposed duration of the charter, pursuant to O.C.G.A. § 20-2-2067.1(b).

(ii) The proposed attendance zone for the school, pursuant to O.C.G.A. § 20-2-2062(1.1).

(iii) A description of all rules and procedures that shall govern the admission of students to the charter school, including:

(I) The steps that shall be taken to reach students representative of the racial and socioeconomic diversity in the school system;

(II) A statement as to whether the charter school shall utilize any enrollment priorities pursuant to O.C.G.A. § 20-2-2066(a) and (b); and

(III) If the school will use an application, a copy of the proposed application or a description of the application that demonstrates that the application conforms to the requirements set forth in the Guidance accompanying this Rule, including the requirement that charter schools shall have open enrollment.

(iv) Rules and procedures concerning student discipline and dismissal, including the code of conduct and student due process procedures.

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(v) Rules and procedures concerning how the school will handle grievances and complaints from students, parents, and teachers.

(vi) The manner in which the school shall be insured, the terms and conditions thereof, and the amounts of coverage.

(vii) State whether transportation will be provided, and if so, include a statement that the transportation program will comply with applicable law. If transportation will not be provided, explain how this will not discourage eligible students from attending the school.

(viii) State whether food service will be provided including participation in federal school meals programs and, if so, briefly describe the charter school's proposed food service program.

(ix) Describe the employment procedures and policies of the school. The description of employment procedures and policies shall include, at a minimum, the following:

(I) Whether certification by the Georgia Professional Standards Commission will be required. If certification is not required, describe the training and experience that will be required, including how the school will determine whether a teacher has demonstrated competency in the subject area(s) in which he/she will teach as required under No Child Left Behind;

(II) Whether the charter school will use the state salary schedule, and if another schedule will be used, provide that schedule;

(III) The charter school's procedures to ensure compliance with the requirement that all staff members are subject to fingerprinting and background checks; and

(IV) State whether the charter school will elect to participate in the State Health Benefit Plan as provided pursuant to O.C.G.A. § 20-2-880 and § 20-2-910.

(x) Describe the facilities to be used, their location(s), and any pending modifications necessary for utilization for educational purposes. The description must include the following components:

(I) Documentation of ownership or a copy of the lease of the facility. If the facility has not been obtained or the documentation is not available at the time the petition is submitted, the petitioner shall provide a timeline for obtaining such facilities or providing such documentation and shall provide such documentation to the Department as soon as it is available.

(II) A statement as to whether the building is new or existing. Building plans must be approved by the facilities department of the local board in the case of a local charter school or by the facilities department of the SBOE in the case of a state chartered special school or a commission charter school.

(III) A Certificate of Occupancy must be obtained prior to student occupancy of the proposed facility. The latest possible date by which the Certificate of Occupancy shall be obtained must be included in the charter petition.

(IV) The school's emergency safety plan, which may constitute a statement that the petitioner will prepare a safety plan in accordance with O.C.G.A. § 20-2-1185 and submit and obtain approval from the Georgia Emergency Management Agency by a specified date.

(xi) The manner in which the school's enrollment count will be determined for purposes of calculating charter school funding, pursuant to O.C.G.A. § 20-2-2068.1(c) or § 20-2-2090(d), as appropriate.

8. DEMONSTRATION OF FISCAL FEASIBILITY AND CONTROLS.

(i) A description of the school's financial structure, including the following components:

(I) If a local charter school, indicate whether the school shall utilize the local school board for fiscal management; and, if so, specify what autonomy the school shall have over budgets and expenditures.

(II) A statement that the school shall be subject to an annual financial audit conducted by an independent Georgia licensed Certified Public Accountant, in accordance with O.C.G.A. § 20-2-2065(b)(7). The financial reporting format shall be in conformity with generally accepted accounting principles.

(III) Designation of a chief financial officer possessing credentials in accordance with the Guidance accompanying this Rule for the purpose of developing and adhering to generally accepted accounting principles.

(IV) Spreadsheets that have been developed in accordance with Guidance accompanying this Rule, which list detailed budget information projecting revenues and expenditures for the first five years of the proposed charter term. For the first two years of the charter term, the detailed budget information must include spreadsheets projecting revenues and expenditures on a month by month basis and alternative spreadsheets projecting revenues and expenditures that assume one-half of the projected student enrollment for the first two years. If any sources of revenue appearing in the spreadsheets are anticipated to come from private sources, documentation of such revenues must be included along with the petition.

(V) A description of the method used to recruit the number of anticipated students at the school and a statement setting forth the school's plan for maintaining and/or increasing attendance.

(VI) A timeline as to when the school expects to receive state and local funding, as applicable, in order to begin operations.

(VII) A statement that the school shall comply with federal monitoring required for schools that receive federal funds.

(VIII) Commission charter and state chartered special schools shall be required to follow the financial requirements of the Charter Schools Section of the Department's Financial Management for Georgia Local Units of Administration manual. These schools shall be required

to submit all necessary information required by the State Accounting Office for inclusion in the State of Georgia Comprehensive Annual Financial Report.

9. STATEMENT ON ANNUAL REPORT. A statement that the charter school shall provide an annual report to the Department, the local board (if a local charter school), and parents and guardians of students enrolled in the school by October 1 of each year, in accordance with O.C.G.A. § 20-2-2067.1(c) and that such report shall conform with the template provided by the Department.

10. DESCRIPTION OF GOVERNANCE STRUCTURE.

(i) A description of the school's governance structure, including the following components:

(I) A description of how the charter school shall be governed.

(II) A statement that the governing board shall be subject to the provisions of O.C.G.A. § 50-14-1 *et seq.* and O.C.G.A. § 50-18-70 *et seq.*

(III) If a local charter school, a statement that the governing board shall be subject to the control and management of the local board.

(IV) A statement regarding the governing board's function, duties, composition, how and when members shall be selected, trained, how long they shall serve, how members may be removed from office, and how members shall avoid conflicts of interests, as outlined in Guidance accompanying this Rule. Members of the local board and the superintendent of the local school system are prohibited from serving on the charter school's governing board, unless otherwise stipulated by the Department.

(V) A description of how parents, members of the community, and other interested parties will be involved in the governing board of the school.

(VI) A list of proposed business arrangements or partnerships with existing schools, educational programs, businesses, or nonprofit organizations and a disclosure of any potential conflicts of interest. This includes a copy of any intended contracts for the provision of educational management services or the provision of supplemental educational services and remediation, and any agreements with other local schools for the charter school students' participation in extracurricular activities such as interscholastic sports and clubs.

(VII) If a local charter school, a description of the method that the local board and the charter school plan to utilize for resolving conflict.

(ii) Evidence that the charter school, except as noted herein, has been incorporated as a Georgia nonprofit corporation pursuant to the Georgia Nonprofit Corporation Code, O.C.G.A. § 14-3-101 *et seq.*, as required by O.C.G.A. § 20-2-2065(b)(4). This evidence shall include an official copy of the certificate of incorporation from the Georgia Secretary of State and a copy of the by-laws for the Georgia nonprofit corporation. By-laws must specify the duties of governing board members as outlined in Guidance accompanying this Rule. LEA start-up charter schools,

conversion schools, and charter systems are not subject to this requirement pursuant to O.C.G.A. § 20-2-2065(b)(4).

(b) CONVERSION CHARTER PETITIONS. All conversion charter petitions shall meet all petition requirements as listed in paragraph (5)(a) above with the exception of (5)(a)(7)(vi) concerning insurance, (5)(a)(7)(x)(I) and (II) concerning facilities, (5)(a)(8)(i) (II), (III), (IV), (V), (VI) and (VIII) concerning fiscal matters, and (5)(a)(10)(ii) concerning formation as a Georgia nonprofit corporation.

1. A conversion charter petition shall include a statement that the petitioner has held the appropriate votes, by secret ballot, required pursuant to O.C.G.A. § 20-2-2064(a)(1) and (2), and shall describe the procedures and outcome of those votes.

(i) For purposes of the vote required pursuant to O.C.G.A. § 20-2-2064(a)(1), each faculty or instructional staff member shall have a single vote.

(ii) For purposes of the vote required pursuant to O.C.G.A. § 20-2-2064(a)(2), a student's parent(s) or guardian(s) shall collectively have one vote for each student enrolled in the school.

2. If the conversion school intends to use the same policies or procedures currently used in the local school district where the conversion charter school is to be located, the petition shall include copies or website references to such policies or procedures.

3. A conversion charter petition shall include a statement detailing the autonomy that the conversion school shall have from the local school system. This statement shall include, among other things, a description of how financial resources will be managed; how human resources will be managed and personnel evaluated; the extent to which parents, community members, and other stakeholders will participate in the governance of the school; and any other innovative practices the school intends to implement. The petition shall describe all policies, procedures, and practices that will materially distinguish the conversion school from the school's pre-conversion model.

4. A statement that the school shall be subject to an annual financial audit conducted either by an independent Georgia-licensed certified public accountant or by the state auditor, in accordance with O.C.G.A. § 20-2-2065(b)(7).

(c) STATE CHARTERED SPECIAL SCHOOL PETITIONS. A start-up charter petitioner whose petition has been denied by a local board or boards may submit the charter petition to the SBOE for approval as a state chartered special school, as described in (3)(d) above. If the local board or boards does not vote to approve or deny a petition within sixty (60) days after the date of its submission and the petitioner has not requested an extension, the petition may, upon request of the petitioner, be deemed denied by the local board for purposes of submitting a petition for a state chartered special school. All state chartered special school petitions shall meet all petition requirements as listed in (5)(a) above, as applicable.

1. The content of a state chartered special school petition may not be altered from the content that was submitted to the local board or boards that denied the petition. Once approved, a state chartered special school may request that a referendum be ordered by the SBOE pursuant to O.C.G.A. § 20-2-2068.1(c).

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2. In addition to the charter petition, state chartered special school petitioners shall submit to the SBOE:

(i) A statement regarding whether the school intends to request from the SBOE a local referendum pursuant to O.C.G.A. § 20-2-2068.1(c) and, if so, the timeline for pursuing such a request.

(ii) A copy of the local board's written, specific reasons for denial of the charter petition and a written response to the local board's reasons for denial.

(d) JOINTLY AUTHORIZED CHARTER PETITIONS. Two or more local boards may jointly authorize a local charter school pursuant to O.C.G.A. § 20-2-2063(c).

1. Petitions involving two or more local boards shall follow the same requirements as other charter petitions, as outlined above in section (5)(a), with the addition of the following requirements:

(i) A statement specifying which entity shall be the fiscal agent for the jointly authorized charter school;

(ii) A statement specifying how each local board shall contribute local revenue, in a manner consistent with law, to support the charter school; and

(iii) An agreement detailing the involvement and responsibilities of each local board regarding the jointly authorized charter school.

2. The Department shall determine how Adequate Yearly Progress (AYP) is calculated both for the jointly authorized charter school and for the authorizing districts, in accordance with the Single Statewide Accountability System.

3. The local boards may authorize the charter school by one of the following methods:

(i) Each local board shall approve the charter petition before it is submitted to the SBOE; or

(ii) One local board shall submit the petition and enter into an interagency agreement with the other local boards. Such interagency agreement must specify how local revenues shall be allocated to the charter school, and shall become an attachment to the jointly authorized charter petition.

(e) HIGH SCHOOL CLUSTER PETITIONS. A high school and all the middle and elementary schools whose students matriculate to that high school may act as a single charter petitioner to convert to charter school status pursuant to O.C.G.A. § 20-2-2063(b). The high school cluster petition may include new and existing start-up charter schools, conversion charter schools, and renewals thereof.

1. The high school charter cluster shall submit a single charter petition, which must describe the rationale for petitioning as a high school cluster, such as consistency of academic calendar or educational approach.

2. The high school cluster petition must address petition requirements for each school as described in (5)(a) and (5)(b) above. In addition, the petition must address the following requirements:

(i) How each school shall be held accountable for performance goals stated in the charter including Adequate Yearly Progress (AYP);

(ii) How the high school cluster as a whole shall be held accountable for performance goals stated in the charter.

(f) CHARTER SYSTEM PETITIONS. All charter system petitions shall address all petition requirements for conversion charter petitions in (5)(b) above with the exception of (5)(a)(5)(viii) relating to extracurricular activities, (5)(a)(7)(iii)(I) relating to recruitment of students from the school system, 5(a)(10) relating to governance, and (5)(b)(1), relating to parent and faculty votes. In addition, the petition shall include the following minimum requirements:

1. GOVERNANCE STRUCTURE AND SCHOOL-LEVEL GOVERNANCE. All charter system petitions must provide a detailed explanation of the system's governance structure and school-level governance, which highlights the differences between the current structure of the system and the proposed charter system, addressing each of the following elements:

(i) Describe the organizational structure of the charter system, including the general areas of responsibility for the principal of each charter system school, the governing council of each charter system school, and the local board of education. With respect to the governing councils, provide a statement for each of the following:

(I) The composition of each council, including how and when members will be selected, how long they will serve, how they can be removed from office, and how they will avoid conflicts of interest.

(II) Acknowledgement of compliance with the provisions of O.C.G.A. § 50-14-1 *et seq.* and O.C.G.A. § 50-18-70 *et seq.*

(ii) Describe in detail the decision-making authority of the principal of each charter system school, the governing council of each charter system school, and the local board of education, including an explanation of the rights and responsibilities of each, and providing specific examples of how decisions will be made, in each of the following areas:

(I) Personnel decisions, including hiring school principals and teachers;

(II) Financial decisions;

(III) Curriculum and instruction;

(IV) Resource allocation;

(V) Establishing and monitoring the achievement of school improvement goals; and

(VI) School operations.

(iii) To meet the objective of maximizing financial decision-making at the school level, describe:

(I) How federal, state, and local funds shall be distributed to each system charter school; and

(II) What autonomy each charter system school shall have over budgets and expenditures.

(iv) Describe in detail any other elements of the system charter that meet the objective of maximizing school-level governance and school choice, including but not limited to open enrollment policies within the charter system or any distinguishing features to be implemented through the use of waivers.

(v) Describe the training that will be provided for principals and for members of the governing councils that will allow them to implement the school-level decision-making described in this paragraph (f)(1). This description shall include training timelines and topics to be covered.

(vi) Describe in detail how the parents, teachers and community members, outside of each school's governing council, will be involved in implementing the school-level decision-making described in this paragraph (f)(1).

2. FISCAL HISTORY. Provide a statement regarding the fiscal history of the system, including whether the system currently is operating, or has ever operated, under a fiscal deficit plan over the previous five (5) year period, and if so, state the system's plan to correct the fiscal deficit.

3. A list of any schools within the school system applying for a system charter that are currently in Needs Improvement status, and an explanation of how the school system will support such schools under the system charter.

4. A copy of the local board resolution approving the proposed charter system petition.

5. A copy of the required notice to each principal within the proposed charter system regarding hearings on the charter system petition.

(g) VIRTUAL CHARTER SCHOOL PETITIONS. Any petition that includes a proposal to create a virtual charter school shall meet all the requirements set forth in this Rule and all the requirements for virtual charter schools set forth in the Guidance accompanying this Rule.

(6) RENEWAL OF CHARTERS

(a) All charter renewal petitions that are submitted by a charter petitioner to the local board(s), SBOE or the Commission shall meet all petition requirements in paragraphs (5)(a), (b), (c), (d), (e), (f), and (g) above which pertain to the type of renewal charter petition submitted, and must comply with current charter law, Rule, and Guidance. In addition, a charter school's renewal petition must contain each of the following:

1. An executive summary that provides:

(i) A succinct overview of the performance of the school or schools over the term of the charter and the proposed changes to the charter;

(ii) Information that demonstrates the success of the charter school(s) or system during the previous charter term(s). This demonstration shall explain how the charter school(s) or system succeeded in meeting the annual measurable objectives of AYP and the performance-based objectives stated in the charter and how the charter school(s) or system succeeded in achieving financial and organizational stability and effectiveness. For high school cluster charter renewal petitions and system charters, this demonstration must address each charter school in the cluster/system and the cluster/system as a whole; and

(iii) If termination proceedings were initiated during the most recent charter term, the petitioner must state that in its charter renewal petition.

(7) CHARTER AMENDMENTS.

(a) Pursuant to O.C.G.A. § 20-2-2067.1, the charter of a local charter school may be amended during the charter term upon the approval of the school governing board, the local board(s), and the SBOE. The charter of a state chartered special school may be amended upon the approval of the school governing board and the SBOE. The charter of a charter system may be amended upon approval of the local board and the SBOE. The charter of a commission charter school may be amended during the charter term upon approval of the charter school governing board and the Commission. Once an amendment is approved by the governing board and/or the local board(s), it shall be submitted to the SBOE or the Commission, as appropriate, for approval. Amendment requests submitted to the SBOE and the Commission must address requirements stipulated in Guidance accompanying this Rule.

1. For local charter schools, the local board(s) shall, by a majority vote, approve or deny the proposed amendment no later than sixty (60) days after the amendment's submission to the local board(s), unless the local board(s) and the charter school governing board mutually agree to temporarily postpone the vote to a specific date.

2. The local board(s) shall notify the Department in writing of the charter amendment decision.

3. If the local board(s) and the charter school governing board do not agree to the amendment, the SBOE may recommend mediation between both parties upon the request of any party to help

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resolve differences regarding the proposed amendment.

4. If the amendment is not accepted by the local board(s) or the SBOE, the charter continues in its current unamended form.

(b) Pursuant to O.C.G.A. § 20-2-2068(b)(2), the charter of a system charter may be amended with respect to a particular system charter school during the charter system term upon request of the system charter school's governing council.

1. A request to amend a system charter with respect to a particular system charter school must be submitted in writing to the SBOE and to the charter system.

2. The charter system shall have thirty (30) days from receipt of the request for amendment to provide a written response to the SBOE.

3. Upon receipt of the request for amendment and following the 30-day period for the charter system's response, the SBOE shall conduct a hearing and determine whether the system charter shall be amended to address the concerns of the requesting system charter school.

(8) TERMINATION OF A CHARTER.

(a) Pursuant to O.C.G.A. § 20-2-2068, the termination of a charter for a local charter school may be requested by a majority of the parents or guardians of students enrolled at the charter school, by a majority of faculty and instructional staff employed at the charter school, by the local board(s), or by the SBOE; provided, however, that termination of a system charter may not be requested by a either a majority of the parents or guardians of students enrolled at the charter school, or by a majority of faculty and instructional staff employed at the charter school.

(b) For termination requests from a majority of the parents or guardians of students enrolled at the charter school or by a majority of the faculty and instructional staff employed at the charter school:

1. The group requesting the termination of the charter must submit within thirty (30) days of the public meeting held pursuant to O.C.G.A. § 20-2-2068(a)(1) (A) or (B), a petition for termination to the SBOE which shall include the following:

(i) A written statement detailing the reasons for termination, including supporting documentation;

(ii) The minutes, if any, of the public meeting where the termination request was voted upon;

(iii) Documentation showing that a public meeting and vote was held in accordance with the requirements of O.C.G.A. § 20-2-2068(a)(1) (A) or (B);

(iv) A written statement signed by a member of the group requesting termination stating that an identical copy of the materials submitted by such group to the SBOE pursuant to this subsection has also been provided to the appropriate officials at the charter school, which shall

include at a minimum the principal of the school and the president of the governing board, and the superintendent of the local board of education that serves as the fiscal agent for the charter school; and

(v) Any other pertinent information.

2. The charter school and local board shall have thirty (30) days from receipt of the petition for termination to provide a written response to the petition to the SBOE.

3. Upon receipt of the termination request and following the 30-day period for the charter school's response, the SBOE shall conduct a hearing and render a decision in accordance with Georgia's Administrative Procedures Act.

4. If the SBOE votes to sustain the charter, it shall take notice of the termination request if the charter comes up for renewal.

(c) For termination requests originating with the local board(s):

1. The local board(s) shall provide appropriate notice of proposed termination to the charter school and conduct a hearing on the proposed termination in accordance with O.C.G.A. § 20-2-2068;

2. If the determination is made that the termination of the charter will be requested, the local board(s) shall then file a petition for termination with the SBOE within thirty (30) days of the local board hearing.

(i) Pursuant to O.C.G.A. § 20-2-2068(a)(3), the request shall include a succinct statement of the reasons for the termination request, the transcript of the evidence and proceedings, and the decision of the local board of education;

(ii) The local board(s) shall send a copy of the above documents to the charter school at the same time such documents are filed with the SBOE.

3. Upon receipt of the above documents, the SBOE shall assign a hearing officer to consider the petition, review the transcript of evidence, proceedings, and findings of the local board(s), and make a report and recommendation to the SBOE.

(i) The SBOE shall uphold the decision of the local board(s) if it finds sufficient evidence to sustain the decision.

(ii) The SBOE shall render a final written decision and shall notify the parties accordingly.

(d) For termination requests initiated by the SBOE, including termination requests for state chartered special schools:

1. The SBOE shall notify the charter school and, where applicable, the local board(s), of its intention to convene a hearing for the purposes of determining whether the charter school is in

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violation of a provision of O.C.G.A. § 20-2-2068(a)(2). The notification shall include the specific provisions of O.C.G.A. § 20-2-2068(a)(2) that the charter school is alleged to have violated and shall contain all information contained in O.C.G.A. § 50-13-13(a)(2).

2. The charter school and, where applicable, the local board(s) shall have thirty (30) days from the date of SBOE notification to file a response.

3. After the thirty-day period for receiving a response has elapsed, the SBOE shall conduct a hearing and render a decision in accordance with Georgia's Administrative Procedures Act.

4. If the SBOE determines that the charter should be terminated, it shall issue a statement setting forth the reasons for such termination.

(e) The governing council of a system charter school may request termination of a system charter. For such requests:

1. A petition to terminate a system charter must be submitted in writing by the school governing council of a system charter school to the SBOE and to the charter system.

2. The charter system shall have thirty (30) days from receipt of the petition for termination to provide a written response to the SBOE.

3. Upon receipt of the petition for termination and following the 30-day period for the charter system's response, the SBOE shall conduct a hearing and determine whether the system charter shall be terminated.

Nothing contained herein shall prevent the SBOE from proposing an amendment to the system charter to address the concerns raised by the request for termination.

(f) The Commission may terminate a charter for a commission charter school as follows:

1. A majority of the parents or guardians of students enrolled or a majority of faculty and instructional staff employed at the commission charter school may vote to request the termination of a commission charter school if they have voted to do so at a public meeting called with two (2) weeks advance notice that the purpose of the meeting is to decide whether to request the Commission to terminate the charter. Within thirty (30) days of this public meeting, the majority of parents or guardians or the majority of faculty and instructional staff shall submit to the Commission a termination petition that shall include the following:

(i) A written statement detailing the reasons for termination, including supporting documentation;

(ii) The minutes, if any, of the public meeting where the termination request was voted upon;

(iii) Documentation showing that a public meeting and vote was held in accordance with the requirements of this Rule;

(iv) A written statement signed by a member of the group requesting termination stating that an identical copy of the materials submitted by such group to the Commission pursuant to this subsection has also been provided to the appropriate officials at the charter school, which shall include at a minimum the principal of the school, the president of the governing board, and the fiscal agent for the charter school; and

(v) Any other pertinent information.

2. The Commission may initiate a termination request if it notifies the charter school of its intention to convene a hearing for the purposes of determining whether the charter school has engaged in any conduct set forth in O.C.G.A. § 20-2-2068(a)(2)(A)-(F). The hearing notification shall include the specific conduct that the charter school is alleged to have engaged in.

3. The charter school shall have thirty (30) days from receipt of the termination petition or hearing notification to provide a written response to the Commission.

4. Following the 30-day period for the charter school's response, the Commission shall conduct a hearing and render a decision.

5. If the Commission determines that the charter should be terminated, it shall issue a statement setting forth the reasons for such termination.

(g) Emergency Terminations. In cases where the health, safety, or welfare of students or staff of a charter school is in danger or where the charter school has experienced financial irregularities, any party to the charter or the SBOE may make an emergency termination request. The SBOE, through a regular or special-called meeting, may temporarily suspend the operations of the charter school until a termination hearing as described above can be conducted. Depending on the nature of the danger or financial irregularity, the SBOE may request the local board(s) to assign the charter school students to another public school or overtake operations of the charter school.

(h) Upon termination, whether initiated during the charter term or at the end of the charter term and with or without the consent of the charter school, all assets and unencumbered funds of the terminated local charter school remaining after liabilities have been satisfied shall revert to the local board(s). All assets and unencumbered funds of a state chartered special school shall revert to the Department. Upon termination or closing of a charter school, the local board(s) shall also notify affected charter school students and parents of the charter school closing and their other public school choice options no later than one week after the charter terminates.

(9) ALLOTMENT OF FUNDS.

(a) A charter school shall be eligible for federal, state, and other funds pursuant to O.C.G.A. § 20-2-2068.1 and § 20-2-2090, as appropriate. As noted in paragraph (2)(a)(6) above, the local board(s) shall ensure that local charter schools comply with requirements for monitoring of the use of federal funds.

(b) For the purpose of local charter schools, the Department shall determine the allotment of

state funds and the allocation of federal funds for the LEA in which the charter school is physically located, pursuant to O.C.G.A. § 20-2-2068.1, or to the local board stipulated as the fiscal agent in the charter. Upon request, the Department shall provide to potential charter school petitioners estimates of state funds to be available per FTE and the basis for the estimates as well as approximate dates of availability of funds.

(c) Pursuant to O.C.G.A. § 20-2-2068.1(a) the local board(s) and the SBOE shall treat a local charter school no less favorably than other local schools located within the applicable local system unless otherwise provided by law, including with respect to the provision of funds for instruction, school administration, transportation, food services, and, where feasible, building programs. Funds for transportation and food service shall be provided in accordance with Guidance accompanying this Rule. A local charter school may request the SBOE to order mediation if it believes the local board is treating the charter school less favorably than other local schools. A local charter school intending to request that the SBOE order mediation must make a written request for mediation to the local board(s) not less than sixty (60) days before requesting that the SBOE order mediation.

(d) Pursuant to O.C.G.A. § 20-2-2068.1(c), the local board shall calculate and distribute the funding for the start-up charter school on the basis of its actual or projected enrollment in the current school year according to an enrollment count procedure or projection method stipulated in the terms of the charter. This shall include funding on the basis of its actual or projected enrollment in the current school year in the charter school's first year of operation and in any year that the charter school significantly expands its enrollment (*e.g.*, by adding a grade or grades to the school).

(10) CHARTER SCHOOL FACILITIES FUND.

(a) Pursuant to O.C.G.A. § 20-2-2068.2, in each year in which charter school facilities funds are appropriated by the General Assembly for charter school facilities, the SBOE shall allocate the funds among eligible charter schools.

(b) Charter school facilities funds may, among other allocation methods, be allocated on a per pupil basis. For purposes of this section only, "pupil" is defined as 1.0 FTE. Students who attend a charter school less than full-time may be combined with other part-time students to generate a 1.0 FTE.

(c) Charter schools must enter into a written agreement with the local board that governs the system in which the charter school is physically located or with the local board stipulated as the fiscal agent in the charter that includes a provision for the reversion of any unencumbered funds and all equipment and property purchased with public education funds to the ownership of the local board in the event the charter school terminates operations. State chartered special schools must enter into such agreement with the SBOE.

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(11) CHARTER SCHOOL CAPITAL FINANCING.

(a) Pursuant to O.C.G.A § 20-2-3010 *et. seq.*, in each year in which charter school capital financing funds are appropriated by the General Assembly, the SBOE shall establish a grant program, in the form of matching funds, for qualified charter school contributions.

(b) The SBOE shall determine the maximum amount of matching funds authorized for each dollar of funds donated to a qualified charter school organization for any single charter school project. In so doing, the SBOE shall take into account local revenue, special-purpose local-option sales tax (SPLOST) and bond funding and shall view such local revenue and funding favorably in determining the amount of grant funds to authorize.

(c) The matching grant funds shall apply to any eligible funds donated to a qualified charter school organization within the three (3) year period immediately preceding an appropriation by the General Assembly.

Authority O.C.G.A §§ 14-3-101, 20-2-880, 20-2-910, 20-2-1185, 20-2-2061, 20-2-2062, 20-2-2063, 20-2-2063.1, 20-2-2063.2, 20-2-2064, 20-2-2064.1, 20-2-2065, 20-2-2066, 20-2-2067, 20-2-2067.1, 20-2-2068, 20-2-2068.1, 20-2-2068.2, 20-2-2069, 20-2-2070, 20-2-2071, 20-2-2080, 20-2-2081, 20-2-2082, 20-2-2083, 20-2-2085, 20-2-2086, 20-2-2088, 20-2-2090, 20-2-2091, 20-2-2092, 20-2-3011, 20-2-3012, 20-2-3013, 20-2-3014, 20-2-3015, 20-14-30 through 20-14-41, 20-2-204, 20-2-161, 20-2-164, 50-14-1, 50-13-13, 50-18-70.

Adopted: May 14, 2009 **Effective: June 3, 2009**

Appendix F6: Early Colleges

Early Colleges are innovative and highly effective schools for students who may not be well served by traditional schools, and are underrepresented in post-secondary education. Students graduate with a high school diploma and the potential to earn an associate degree, or one to two years of transferable credit towards a bachelor's degree. Schools couple a rigorous curriculum with strong academic supports. Each site is a partnership between a local school system and a University System of Georgia institution. All schools strive to remove the financial, academic, and psychological hurdles that prevent too many students from entering and succeeding in college.

The Goals of Early College

ALIGNMENT WITH RACE TO THE TOP

- Early College puts strong emphasis on creating and supporting great teachers and principals.
- Quality professional development, in partnership with Jobs for the Future and university partners, has been a key element of success.
- Core focus is on decreasing achievement gaps and increasing high school graduation.
- (F)(2) Development of successful conditions for charters and other innovative, autonomous schools
- Priority 5: P-20 coordination – the schools blur distinctions between high school and postsecondary, creating seamless transitions focused on student success.
- Priority 6: School Level conditions for success – the Early Colleges place total emphasis on student success. The results speak for themselves.

EARLY COLLEGE INITIATIVE GOALS

Goal 1: To increase college readiness and college success of high school graduates traditionally underserved in Georgia.

Goal 2: To develop and test model programs for young people, in middle and high school, that get better results, are more coherent and less duplicative, and make possible a shorter time to complete an associate degree or two years of college.

Goal 3: To study the effectiveness of the Early College model for reducing the high school dropout rate, increasing the college admission and college success rate of African American males, Hispanic students, and other traditionally underserved students.

Albany Early College – Albany
Partners: Dougherty County Schools & Albany State University

Carver Early College – Atlanta
Partners: Atlanta Public Schools & Georgia State University

DeKalb Early College Academy (DECA) – Decatur
Partners: Georgia Perimeter College & DeKalb County School System

Early College Academy of Columbus (ECAC) –Columbus
Partners: Columbus State University & Muscogee County School District

Engineering Early College @ Maynard Jackson – Atlanta
Partners: Atlanta Public Schools & Atlanta Metropolitan College

Georgia College Early College (GCEC) – Milledgeville
Partners: Georgia College and State University, Putnam County Schools, Baldwin County Schools and Oconee RESA

Regional Early Admission for College Hopefuls (REACH) Early College – Carrollton
Partners: Carroll County School System & University of West Georgia

Risley Early College Academy (RECA) – Brunswick
Partners: College of Coastal Georgia & Glynn County School System

Savannah Early College – Savannah
Partners: Savannah State University, Savannah Technical College and Savannah-Chatham Public School System

SCS-GSW Early College – Americus
Partners: Georgia Southwestern State University & Sumter County School System

Valdosta Early College Academy (VECA) – Valdosta
Partners: Valdosta City Schools & Valdosta State University

Washington Early College – Atlanta
Partners: Atlanta Public Schools & Georgia State University

Enrollment

- As of Fall 2009, Early College has a total enrollment of 2201 students.
- Low Income Population: 82%
- Minority Population: 85%
- First Generation Population: 85%
- Currently 352 Early College students are taking at least one college course at their partner institution.

School Models

School models are individualized by the participating school districts and higher education partners to facilitate flexibility in determining the best use of available resources to serve targeted populations. The current models are as follows:

Appendix F6: Early Colleges

Grade levels
- 6-12 models: 1 school
- 7-12 models: 5 schools
- 9-12 models: 6 schools

Campuses
- Located on-campus: 4 schools
- Located in an independent facility: 3 schools
- Located as a school within another school's facility: 5 schools

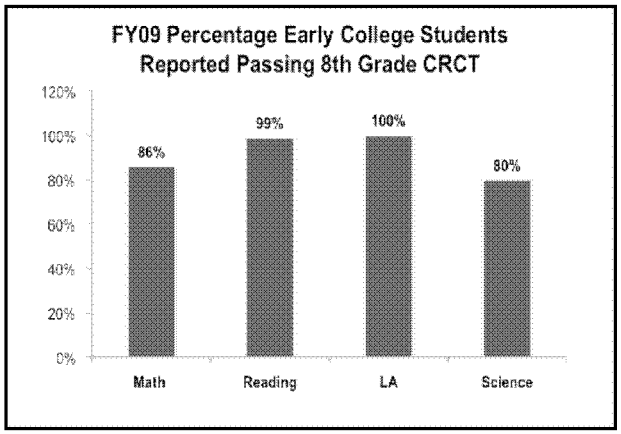
Funding for the Initiative

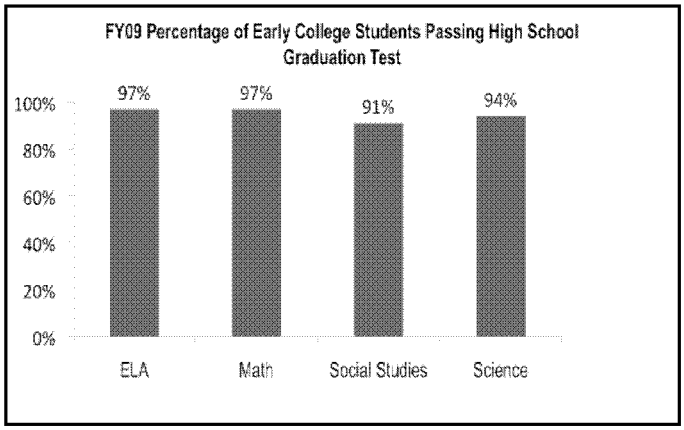
In 2004, the Bill & Melinda Gates Foundation awarded the University System of Georgia a 5 year, $2 million grant to support the start up of six Early College High Schools. Additional funding was secured from the Robert W. Woodruff Foundation. ACCEL/Hope funds support the college tuition for students taking dual enrollment courses on the college campuses.

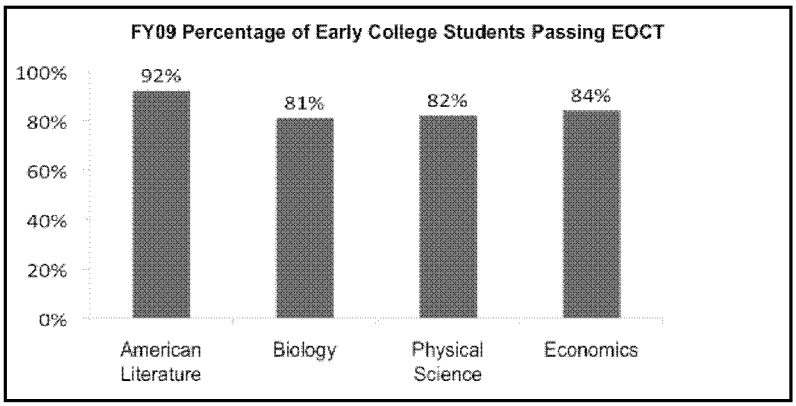
Demonstrated Success

The first Early College in the State of Georgia (***Carver Early College***) produced the first four-year cohort Early College graduating class in May 2009 with the following successes:
- 100% graduation rate
- 100% college acceptance rate
- 54% earning postsecondary academic scholarships
- 67% graduating with honors
- 100% earned between 12 and 52 hours of college credit

Four of our remaining 9-12 models will graduate a four-year cohort of in May 2010. Early College students have achieved the following successes in college courses:
- 352 students currently taking college courses (All juniors and seniors with the exception of 20 sophomores at Carver EC)
- Reporting schools noted that 74% of their students are receiving an A or B in their college courses
- All seniors are reported on track to graduate on-time
- All seniors are reported on track to graduate with some college credit







10 SB 84/AP
Senate Bill 84
By: Senators Heath of the 31st, Williams of the 19th, Cowsert of the 46th, Rogers of the 21st, Johnson of the 1st and others

AS PASSED

A BILL TO BE ENTITLED
AN ACT

To amend Chapter 2 of Title 20 of the Official Code of Georgia Annotated, relating to elementary and secondary education, so as to revise provisions relating to eligibility for election as a local board of education member; to provide for legislative findings; to limit the size of local boards of education; to revise provisions relating to per diem and expenses of local board of education members; to revise certain provisions relating to the secretary of local boards of education; to provide for the fundamental roles of local boards of education and local school superintendents; to prohibit certain conflicts of interest of board members; to provide for a code of ethics for local board of education members; to provide for removal of board members under certain circumstances; to revise provisions relating to eligibility for appointment as a school superintendent; to revise provisions relating to training of local board of education members; to provide for submission of certain provisions of this Act for preclearance under the federal Voting Rights Act of 1965, as amended; to provide for related matters; to repeal conflicting laws; and for other purposes.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF GEORGIA:

SECTION 1.
Chapter 2 of Title 20 of the Official Code of Georgia Annotated, relating to elementary and secondary education, is amended by adding a new Code section to Article 3, relating to local boards of education, to read as follows:
"20-2-49.
The General Assembly finds that local boards of education play a critical role in setting the policies that lead to the operation and success of local school systems. School board members hold special roles as trustees of public funds, including local, state, and federal funds, while they focus on the singular objective of ensuring each student in the local school system receives a quality basic education. Board duties require specialized skills and training in the performance of vision setting, policy making, approving multimillion dollar budgets, and hiring a qualified superintendent. The motivation to serve as a member of a local board of education should be the improvement of schools and academic achievement of all students. Service on a local board of education is important citizen service. Given the specialized nature and unique role of membership on a local board of education, this elected office should be characterized and treated differently from other elected offices where the primary duty is independently to represent constituent views. Local board of education members should abide by a code of conduct and conflict of interest policy modeled for their unique roles and responsibilities. And although there are many measures of the success of a local board of education, one is clearly essential: maintaining accreditation and the opportunities it allows the school system's students."

SECTION 2.
Said chapter is further amended by revising Code Section 20-2-51, relating to election of county board of education members, persons ineligible to be members or superintendent, ineligibility for local boards of education, and ineligibility for other offices, as follows:
"20-2-51.
(a) No person shall be eligible for election as a member of a local board of education who is not a resident of the school district in which that person seeks election and of the election district which such person seeks to represent. Whenever there is in a portion of any county a local school system having a board of education of its own, receiving its pro rata of the public school fund directly from the State School Superintendent and having no dealings whatever with the local board, then the members of the board of such county shall be selected from that portion of the county not embraced within the territory covered by such local system.
(b) Whenever a member of a local board of education moves that person's domicile from the district which that person represents, such person shall cease to be a member of such local board of education, and a vacancy shall occur. The member shall provide notice of such move to the secretary of the local board of education and the election superintendent within ten days of such move.
(c)(1) No person ~~employed by or~~ serving on the governing body of a private elementary or secondary educational institution shall be eligible to serve as a member of a local board of education.
(2) No person employed by a local board of education shall be eligible to serve as a member of that board of education.
(3) No person employed by the Department of Education or serving as a member of the State Board of Education shall be eligible to serve as a member of a local board of education. ~~This paragraph shall not apply to institutions above the high school level.~~
~~(2)~~(4)(A) No person who has an immediate family member sitting on a local board of education or serving as the local school superintendent or as a principal, assistant principal, or system administrative staff in the local school system shall be eligible to serve as a member of such local board of education. As used in this paragraph, the term 'immediate family member' means a spouse, child, sibling, or parent or the spouse of a child, sibling, or parent whose employment as the local school superintendent or as a principal, assistant principal, or system administrative staff in the local school system began on or after January 1, 2010. This paragraph shall apply only to local board of education members elected or appointed on or after July 1, 2009. Nothing in this Code section shall affect the employment of any person who is employed by a local school system on or before July 1, 2009, or who is employed by a local school system when an immediate family member becomes a local board of education member for that school system.
(B) Notwithstanding subsection (b) of Code Section 20-2-244, in local school systems in which the initial fall enrollment count conducted in 2009 pursuant to Code Section 20-2-160 does not exceed a full-time equivalent count of 2,800, the State Board of Education shall be authorized to waive this paragraph upon the request of a local board of education or an individual attempting to qualify to run for local board of education member and in accordance with the provisions of subsections (d) and (e) of Code Section 20-2-244; provided, however, that prior to submitting any such request, the local board of education shall, upon its own initiative, or at the request of such individual attempting to qualify to run for local board of education member:
(i) Provide 30 days' notice of the individual's intent to run for office; and

(ii) Conduct a public hearing for the purpose of providing an opportunity for full discussion and public input on the issue of potential nepotism problems and other concerns with regard to such waiver. The public hearing shall be advertised at least seven days prior to the date of such hearing in a local newspaper of general circulation which shall be the same newspaper in which other legal announcements of the local board of education are advertised. The public hearing may be conducted in conjunction with a regular or called meeting of the local board or may be conducted independently, at the local board's discretion.

The cost of such notice and public hearing shall be borne by the local board. The State Board of Education shall approve or deny a waiver request no later than 45 days after receipt of such waiver request, taking into consideration whether the benefit to the public would justify approval of the waiver. An approved waiver must be received by the local election superintendent prior to an individual's filing of a declaration or notice of candidacy in accordance with Article 4 of Chapter 2 of Title 21.

(d) In all counties of this state having a population of not less than 500,000 or more than 600,000 according to the United States decennial census of 1990 or any future such census, the members of the county boards of education taking office after December 1, 1975, shall not hold any other elective governmental office. If any member of any such board should qualify at any time after December 1, 1975, for nomination or election to any other elective governmental office other than for membership on such county board, such member's position on such county board shall thereby become vacant. Such vacancy shall be filled as provided by the law applicable to any such county board.

(e) In addition to any other requirements provided by law, no person shall be eligible for election as a member of a local board of education unless he or she:

(1) Has read and understands the code of ethics and the conflict of interest provisions applicable to members of local boards of education and has agreed to abide by them; and

(2) Has agreed to annually disclose compliance with the State Board of Education's policy on training for members of local boards of education, the code of ethics of the local board of education, and the conflict of interest provisions applicable to members of local boards of education.

Each person offering his or her candidacy for election as a member of a local board of education shall file an affidavit with the officer before whom such person has qualified for such election prior to or at the time of qualifying, which affidavit shall affirm that he or she meets all of the qualifications required pursuant to this subsection. This subsection shall apply only to local board of education members elected or appointed on or after July 1, 2010.

~~(e)~~(f) No person who is on the National Sex Offender Registry or the state sexual offender registry shall be eligible for election to or service on a local board of education."

SECTION 3.

Said chapter is further amended by revising Code Section 20-2-52, relating to terms of office of members of local boards of education, as follows:

"20-2-52.

(a) Members of local boards of education shall be elected for terms of four years unless their terms are otherwise provided by local Act or constitutional amendment.

(b)(1) Each local board of education shall have no more than seven members as provided by local Act.

(2) This subsection shall not apply to a local board of education whose board size exceeds seven members as provided by local constitutional amendment or federal court order or pursuant to a local law in effect prior to July 1, 2010; provided, however, that if the local law of any such local board of education is amended to revise the number of members on such board, paragraph (1) of this subsection shall apply."

SECTION 4.

Said chapter is further amended by revising subsection (a) of Code Section 20-2-55, relating to per diem, insurance, and expenses of local board members, as follows:

"(a)(1) In any local school system for which no local Act is passed, members of the local board of education shall, when approved by the local board affected, receive a per diem of $50.00 for each day of attendance at meetings of the board and while meeting and traveling within or outside the state as a member of a committee of the board on official business first authorized by a majority of the board, plus reimbursement for actual expenses necessarily incurred in connection therewith; provided, however, that in any independent school system with a full-time equivalent (FTE) program count of less than 4,000 students for which no local Act is passed, members of the local board of education may, when approved by the affected local board, receive a per diem of not less than $50.00 and not more than $100.00 for each day of attendance at meetings of the board and while meeting and traveling within or outside the state as a member of a committee of the board, plus reimbursement for actual expenses. The accounts for such service and expenses shall be submitted for approval to the local school superintendent. In all school districts, the compensation of members of local boards shall be paid only from the local tax funds available to local boards for educational purposes. This paragraph shall apply only to local board of education members elected or appointed prior to July 1, 2010.

(2) In any local school system for which no local Act is passed, members of the local board of education shall, when approved by the local board affected, receive a per diem of $50.00 for each day of attendance at a meeting, as defined in paragraph (2) of subsection (a) of Code Section 50-14-1, of the board, plus reimbursement for actual expenses necessarily incurred in connection therewith; provided, however, that in any independent school system with a full-time equivalent (FTE) program count of less than 4,000 students for which no local Act is passed, members of the local board of education may, when approved by the affected local board, receive a per diem of not less than $50.00 and not more than $100.00 for each day of attendance at a meeting, as defined in paragraph (2) of subsection (a) of Code Section 50-14-1, of the board, plus reimbursement for actual expenses. The accounts for such service and expenses shall be submitted for approval to the local school superintendent. In all school districts, the compensation of members of local boards shall be paid only from the local tax funds available to local boards for educational purposes. This paragraph shall apply only to local board of education members elected or appointed on or after July 1, 2010."

SECTION 5.

Said chapter is further amended by revising subsection (a) of Code Section 20-2-57, relating to organization of county boards of education, as follows:

"(a) Unless otherwise provided by local law or, in the absence of local law, by local board policy, upon being called together by one of their number, the members of the local board shall organize by selecting one of their number as chairperson to serve as such during the term for which that person was chosen as a member of the local board. The local school superintendent shall act as secretary of the local board, ex officio. A majority of the local board shall constitute a

quorum for the transaction of business. The votes of a majority of the members present shall be necessary for the transaction of any business or discharge of any duties of the local board of education, provided there is a quorum present. Any action taken by less than a majority of the board members may be rescinded by a majority of the board members at the next regular meeting or within 30 days of such action, whichever is later. It shall be the duty of the superintendent ~~or the board's nominee~~ as secretary to be present at the meetings of the local board, to keep the minutes of its meetings and make a permanent record of them, and to do any other clerical work it may direct the superintendent to do. The superintendent ~~or the board's nominee~~ shall ~~record~~ cause to be recorded in a book, to be provided for the purpose, all official proceedings of the local board, which shall be a public record open to the inspection of any person interested therein; and all such proceedings, when so recorded, shall be signed by the chairperson and countersigned by the secretary."

SECTION 6.
Said chapter is further amended by revising Code Section 20-2-61, which is reserved, as follows:
"20-2-61.
~~Reserved.~~
(a) The fundamental role of a local board of education shall be to establish policy for the local school system with the focus on student achievement. The fundamental role of a local school superintendent shall be to implement the policy established by the local board. It shall not be the role of the local board of education or individual members of such board to micromanage the superintendent in executing his or her duties, but it shall be the duty of the local board to hold the local school superintendent accountable in the performance of his or her duties. Local board of education members should work together with the entire local board of education and shall not have authority as independent elected officials but shall only be authorized to take official action as members of the board as a whole. Nothing in this subsection shall be construed to alter, limit, expand, or enlarge any powers, duties, or responsibilities of local boards of education, local board members, or local school superintendents.
(b) Except as may be allowed by law, no local board of education shall delegate or attempt to delegate its policy-making functions."

SECTION 7.
Said chapter is further amended by revising Code Section 20-2-63, which is reserved, as follows:
"20-2-63.
~~Reserved.~~
(a)(1) No local board of education member shall use or attempt to use his or her official position to secure unwarranted privileges, advantages, or employment for himself or herself, his or her immediate family member, or others.
(2) No local board of education member shall act in his or her official capacity in any matter where he or she, his or her immediate family member, or a business organization in which he or she has an interest has a material financial interest that would reasonably be expected to impair his or her objectivity or independence of judgment. Compliance with Code Section 20-2-505 shall not constitute a violation of this paragraph.
(3) No local board of education member shall solicit or accept or knowingly allow his or her immediate family member or a business organization in which he or she has an interest to solicit or accept any gift, favor, loan, political contribution, service, promise of future employment, or

other thing of value based upon an understanding that the gift, favor, loan, contribution, service, promise, or other thing of value was given or offered for the purpose of influencing that board member in the discharge of his or her official duties. This paragraph shall not apply to the solicitation or acceptance of contributions to the campaign of an announced candidate for elective public office if the local board of education member has no knowledge or reason to believe that the campaign contribution, if accepted, was given with the intent to influence the local board of education member in the discharge of his or her official duties. For purposes of this paragraph, a gift, favor, loan, contribution, service, promise, or other thing of value shall not include the items contained in subparagraphs (a)(2)(A) through (a)(2)(J) of Code Section 16-10-2.

(4) No local board of education member shall use, or knowingly allow to be used, his or her official position or any information not generally available to the members of the public which he or she receives or acquires in the course of and by reason of his or her official position for the purpose of securing financial gain for himself or herself, his or her immediate family member, or any business organization with which he or she is associated.

(5) No local board of education member or business organization in which he or she has an interest shall represent any person or party other than the local board of education or local school system in connection with any cause, proceeding, application, or other matter pending before the local school system in which he or she serves or in any proceeding involving the local school system in which he or she serves.

(6) No local board of education member shall be prohibited from making an inquiry for information on behalf of a constituent if no fee, reward, or other thing of value is promised to, given to, or accepted by the local board of education member or his or her immediate family member in return therefor.

(7) No local board of education member shall disclose or discuss any information which is subject to attorney-client privilege belonging to the local board of education to any person other than other board members, the board attorney, the local school superintendent, or persons designated by the local school superintendent for such purposes unless such privilege has been waived by a majority vote of the whole board.

(8) No member of a local board of education may also be an officer of any organization that sells goods or services to that local school system, except as provided in Code Section 20-2-505 and excluding nonprofit membership organizations.

(9) No local board of education member shall be deemed in conflict with this subsection if, by reason of his or her participation in any matter required to be voted upon, no material or monetary gain accrues to him or her as a member of any profession, occupation, or group to any greater extent than any gain could reasonably be expected to accrue to any other member of that profession, occupation, or group.

(b) Upon a motion supported by a two-thirds' vote, a local board of education may choose to conduct a hearing concerning the violation by a local board of education member of any conflict of interest provision in subsection (a) of this Code section. The local board of education member accused of violating said provision shall have 30 days' notice prior to a hearing on the matter. Said accused member may bring witnesses on his or her behalf, and the local board of education may call witnesses to inquire into the matter. If it is found by a vote of two-thirds of all the members of the board that the accused member has violated a conflict of interest provision contained in subsection (a) of this Code section, the local board shall determine an appropriate sanction. A board member subject to sanction pursuant to this Code section may, within 30 days

of such sanction vote, appeal such decision to the State Board of Education, which shall be empowered to affirm or reverse the decision to sanction such board member. The State Board of Education shall promulgate rules governing such appeal process. This subsection shall apply only to local board of education members elected or appointed on or after July 1, 2010.
(c) As used in this Code section, the term 'immediate family member' means a spouse, child, sibling, or parent or the spouse of a child, sibling, or parent."

SECTION 8.
Said chapter is further amended by adding new Code sections to Article 3, relating to local boards of education, to read as follows:
"20-2-72.
(a) The State Board of Education shall adopt a model code of ethics for members of local boards of education by October 1, 2010. Such model code of ethics shall also include appropriate consequences for violation of a provision or provisions of such code. The State Board of Education may periodically adopt revisions to such model code as it deems necessary.
(b) Within three months of adoption by the State Board of Education of a model code of ethics pursuant to subsection (a) of this Code section, each local board of education shall adopt a code of ethics that includes, at a minimum, such model code of ethics. Each local board of education shall incorporate into its code of ethics any revisions adopted by the State Board of Education to the model code of ethics pursuant to subsection (a) of this Code section within three months of adoption of such revisions.

20-2-73.
(a) Notwithstanding Code Section 20-2-54.1 or any other provisions of law to the contrary, if a local school system or school is placed on the level of accreditation immediately preceding loss of accreditation for school board governance related reasons by one or more accrediting agencies included in subparagraph (6.1)(A) of Code Section 20-3-519, the State Board of Education shall conduct a hearing in not less than ten days nor more than 30 days and recommend to the Governor whether to suspend all eligible members of the local board of education with pay. If the State Board of Education makes such recommendation, the Governor may, in his or her discretion, suspend all eligible members of the local board of education with pay and, in consultation with the State Board of Education, appoint temporary replacement members who shall be otherwise qualified to serve as members of such board.
(b) Any local board of education member suspended under this Code section may petition the Governor for reinstatement no earlier than 30 days following suspension and no later than 60 days following suspension. In the event that a suspended member does not petition for reinstatement within the allotted time period, his or her suspension shall be converted into permanent removal, and the temporary replacement member shall become a permanent member and serve out the remainder of the term of the removed member.
(c) Upon petition for reinstatement by a suspended local board of education member, the Governor or his or her designated agent shall conduct a hearing for the purpose of receiving evidence relative to whether the local board of education member's continued service on the local board of education is more likely than not to improve the ability of the local school system or school to retain its accreditation. The appealing member shall be given at least 30 days' notice prior to such hearing. Such hearing shall be held not later than 90 days after the petition is filed and in accordance with Chapter 13 of Title 50, the 'Georgia Administrative Procedure Act,'

except that the individual conducting the hearing shall have the power to call witnesses and request documents on his or her own initiative. For purposes of said chapter and any hearing conducted pursuant to this Code section, the Governor shall be considered the 'agency' and the Attorney General or his or her designee shall represent the interests of the Governor in the hearing. If it is determined that it is more likely than not that the local board of education member's continued service on the local board of education improves the ability of the local school system or school to retain its accreditation, the member shall be immediately reinstated; otherwise, the member shall be permanently removed, and the temporary replacement member shall become a permanent member and serve out the remainder of the term of the removed member or until the next general election which is at least six months after the member was permanently removed, whichever is sooner. Judicial review of any such decision shall be in accordance with Chapter 13 of Title 50.

(d) This Code section shall apply only to a local school system or school which is placed on the level of accreditation immediately preceding loss of accreditation on or after July 1, 2010.

(e) This Code section shall apply only to local board of education members elected or appointed on or after July 1, 2010."

SECTION 9.

Said chapter is further amended by revising subsection (b) of Code Section 20-2-101, relating to appointment of county school superintendents, as follows:

"(b)(1) No person shall be eligible to be appointed or employed as superintendent of schools of any county or independent school system unless such person is of good moral character, has never been convicted of any crime involving moral turpitude, and possesses acceptable business or management experience as specified by the Professional Standards Commission or the minimum valid certificate or a letter of eligibility for said certificate required by the Professional Standards Commission.

(2) No person shall be eligible to be appointed, employed, or to serve as superintendent of schools of any county or independent school system who has an immediate family member sitting on the local board of education for such school system or who has an immediate family member hired as or promoted to a principal, assistant principal, or system administrative staff on or after July 1, 2009, by that school system. As used in this subsection, the term 'immediate family member' ~~shall have the same meaning as in subsection (c) of Code Section 20-2-51~~ means a spouse, child, sibling, or parent or the spouse of a child, sibling, or parent whose term as a member of the local board of education or whose employment as a principal, assistant principal, or system administrative staff in the local school system began on or after January 1, 2010. Nothing in this Code section shall affect the employment of any person who is employed by a local school system on or before July 1, 2009, or who is employed by a local school system when an immediate family member becomes the superintendent for that school system."

SECTION 10.

Said chapter is further amended by revising subsection (b) of Code Section 20-2-230, relating to staff development programs, as follows:

"(b)(1) The State Board of Education shall adopt a training program for members of local boards of education by July 1, 2011. The State Board of Education may periodically adopt revisions to such training program as it deems necessary.

(2) Within three months of adoption by the State Board of Education of a training program pursuant to paragraph (1) of this subsection, each local board of education and each governing board of other local units of administration shall adopt a training program for members of such boards that includes, at a minimum, such training program and requirements established by the State Board of Education pursuant to paragraph (1) of this subsection. Each local board of education shall incorporate any revisions adopted by the State Board of Education to the training program pursuant to paragraph (1) of this subsection within three months of adoption of such revisions. ~~All new members of governing boards of local units of administration shall, before or within one year after assuming office, receive at least 12 hours of orientation to the educational program objectives of Georgia and instruction in school finance; school law, with special emphasis on the 'Quality Basic Education Act'; responsiveness to the community; the ethics, duties, and responsibilities of local governing board members; annual performance evaluation of the school superintendent and the local board of education; and such other topics as the State Board of Education may deem to be necessary; provided, however, that at least six of these 12 hours of training shall be specifically related to education finance, generally accepted accounting principles, and budgeting. The board of education of the Department of Juvenile Justice shall be exempt from the six hours of training in education finance, generally accepted accounting principles, and budgeting. All members of boards of local units of administration are required to participate in at least one day of training annually to ensure the effective management and operation of local units of administration. The Georgia Education Leadership Academy is authorized, in cooperation with the Georgia School Boards Association or other agencies and associations, to conduct workshops annually to provide such instruction and to present to each board member completing such annual workshop for the first time an appropriate certificate. The Georgia Education Leadership Academy shall adopt such procedures as may be necessary to verify the attendance at such annual workshops of veteran members of boards of local units of administration.~~

(3) All boards of local units of administration are authorized to pay such board members for attendance at a required training program the same per diem as authorized by local or general law for attendance at regular ~~or special~~ meetings, as well as reimbursement of actual expenses for travel, lodging, meals, and registration fees for such ~~workshops~~ training, either before or after such board members assume office."

SECTION 11.
The Attorney General of Georgia shall cause Sections 2, 3, 7, and 8 of this Act to be submitted for preclearance under the federal Voting Rights Act of 1965, as amended, and such submission shall be made to the United States Department of Justice or filed with the appropriate court no later than 45 days after the date on which this Act is approved by the Governor or becomes law without such approval. If, as of June 30, 2011, implementation of any of the submitted sections of this Act are not permissible under the Voting Rights Act of 1965, as amended, then as of such date, such section or sections of this Act shall be void and shall stand repealed in their entirety.

SECTION 12.
All laws and parts of laws in conflict with this Act are repealed.

House Bill 1209 (AS PASSED HOUSE AND SENATE)

By: Representatives Coleman of the 97th, Golick of the 34th, Smith of the 129th, Cole of the 125th, Maxwell of the 17th, and others

A BILL TO BE ENTITLED

AN ACT

To amend Chapter 2 of Title 20 of the Official Code of Georgia Annotated, relating to elementary and secondary education, so as to provide that a local school system may enter into a contract with the State Board of Education for increased flexibility; to provide for a local school system to remain under current requirements; to provide for public input; to provide for strategic plans; to provide for submission of a proposed contract; to provide for negotiations; to provide for contract requirements; to provide for accountability, flexibility, and consequences components of the contract; to provide for certain laws which may be waived; to provide for loss of governance consequences; to provide for duties of the Office of Student Achievement; to provide for implementation; to provide for other funding options; to provide for exceptions for charter systems; to provide for rules, regulations, and guidelines; to change certain provisions relating to appointment of local school superintendents; to change certain provisions relating to waivers to improve student performance; to provide for related matters; to repeal conflicting laws; and for other purposes.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF GEORGIA:

SECTION 1.

Chapter 2 of Title 20 of the Official Code of Georgia Annotated, relating to elementary and secondary education, is amended by adding a new Article 4, which is reserved, to read as follows:

"ARTICLE 4

20-2-80.

(a) A local school system may request increased flexibility from certain state laws, rules, and regulations in exchange for increased accountability and defined consequences through

a contract with the State Board of Education. Such contract shall establish a framework of accountability, flexibility, and consequences in accordance with this article.

(b) A local school system may elect not to request increased flexibility in exchange for increased accountability and defined consequences and opt to remain under all current laws, rules, regulations, policies, and procedures, and such local school system shall:

(1) Conduct a public hearing for the purpose of providing public notice that such local school system is opting for the status quo. The public hearing shall be advertised in a local newspaper of general circulation which shall be the same newspaper in which other legal announcements of the local board of education are advertised; and

(2) Sign a statement on a form provided by the state board that such local school system is opting for the status quo.

20-2-81.

(a) Each local school system which elects to request increased flexibility pursuant to this article shall develop a five-year strategic plan which sets out the school system's vision and mission for improving the performance of its schools and shall clearly delineate in a proposed contract the following for measuring the improvement and performance of its schools:

(1) Current performance data, grade levels, and demographic data for each school within the school system;

(2) Performance goals for each school, including both improvement and achievement; and

(3) Performance measures and benchmarks for each school for evaluating improvement and achievement and monitoring progress toward yearly performance goals.

(b) The proposed strategic plan shall incorporate, to the extent practicable, school improvement plans in effect for schools in the local school system.

(c) The department shall provide an electronic template accessible through the Internet for local school systems to input their proposed contracts. The template shall be designed to include the information contained in subsection (a) of this Code section.

(d) Prior to the submission of a proposed contract to the department, a local board of education shall schedule and hold a public hearing for the purpose of providing an opportunity for full discussion and public input on the strategic plan and proposed contract, including formal, written comments or suggestions regarding the local school system's flexibility requests and performance goals and their impact on each school. The public hearing shall be advertised in a local newspaper of general circulation which shall be the same newspaper in which other legal announcements of the local board of education are advertised.

(e) The local school system shall submit the proposed contract to the department in accordance with time frames established by the department.

20-2-82.

(a) The local board of education and the department shall enter into negotiations on the appropriate terms of the contract, including the accountability, flexibility, and consequences components of the contract in accordance with Code Section 20-2-84, in consultation with the Office of Student Achievement. The accountability, flexibility, and consequences components may vary between schools and clusters.

(b) The flexibility requested by a local school system pursuant to subsection (b) of Code Section 20-2-84 shall result in consequences in accordance with subsection (c) of Code Section 20-2-84 and Code Section 20-2-84.1 for noncompliance with the accountability requirements established pursuant to subsection (a) of Code Section 20-2-84.

(c) The department, in consultation with the Office of Student Achievement, shall make a recommendation to the state board on whether the proposed terms of the contract should be approved by the state board.

(d)(1) The state board shall have the authority to approve or deny approval of the proposed terms of the contract but shall give all due consideration to the recommendation and input from the Office of Student Achievement.

(2) In the event that the state board denies approval of the proposed terms of the contract, the local board of education shall work with the department, in consultation with the Office of Student Achievement, for further revisions and resubmission to the state board.

(e) The state board shall be authorized to approve a waiver or variance request of specifically identified state rules, regulations, policies, and procedures or provisions of this chapter upon the inclusion of such request in the local school system´s proposed contract and in accordance with subsection (b) of Code Section 20-2-84. The goal for each waiver and variance shall be improvement of student performance. The state board shall not be authorized to waive or approve variances on any federal, state, and local rules, regulations, court orders, and statutes relating to civil rights; insurance; the protection of the physical health and safety of school students, employees, and visitors; conflicting interest transactions; the prevention of unlawful conduct; any laws relating to unlawful conduct in or near a public school; or any reporting requirements pursuant to Code Section 20-2-320 or Chapter 14 of this title. A local school system that has received a waiver or variance shall remain subject to the provisions of Part 3 of Article 2 of Chapter 14 of this title, the requirement that it shall not charge tuition or fees to its students except as may be authorized for local boards by Code Section 20-2-133, and shall remain open to enrollment in the same manner as before the waiver request.

20-2-83.

(a) Upon approval of a proposed contract of a local school system which has requested flexibility, the state board shall enter into such contract with the local board of education.

(b) The terms of the contract shall include, but not be limited to, accountability, flexibility, and consequences components as negotiated pursuant to subsection (a) of Code Section 20-2-82 and in accordance with Code Section 20-2-84.

(c) Each contract shall be for a term of five years. The terms of the contract may provide for automatic extension of such contract if a local school system has met its accountability requirements.

(d) The terms of a contract may be amended during the term of the contract only if warranted due to unforeseen circumstances and upon approval of the state board and the local board of education.

20-2-84.

(a) The accountability component of the contract provided in Code Section 20-2-83 shall include at least one of the student achievement measures in paragraphs (1) through (4) of this subsection, including both total scores and any needed targeted subgroups:

(1) High school graduation rates;

(2) SAT or ACT performance;

(3) State standardized test data, which may include criterion-referenced competency tests, the Georgia High School Graduation Test, end-of-course assessments, or a combination thereof;

(4) Advanced placement or international baccalaureate participation and performance; and

(5) Any other accountability measures included pursuant to Part 3 of Article 2 of Chapter 14 of this title.

(b) The flexibility component of the contract provided in Code Section 20-2-83 shall include the waiver or variance of at least one of the areas in paragraphs (1) through (4) of this subsection as requested by the local school system:

(1) Class size requirements in Code Section 20-2-182;

(2) Expenditure controls in Code Section 20-2-171 and categorical allotment requirements in Article 6 of this chapter;

(3) Certification requirements in Code Section 20-2-200;

(4) Salary schedule requirements in Code Section 20-2-212; and

(5) Any other requirements or provisions of this chapter as identified by the local school system and approved by the state board except as provided in subsection (e) of Code Section 20-2-82.

(c) The consequences component of the contract provided in Code Section 20-2-83 shall include:

(1) Interventions or sanctions for failure to meet identified levels of achievement or for not showing specified levels of progress pursuant to Code Section 20-14-41, which may be accelerated; and

(2) Loss of governance of one or more nonperforming schools by the local school system in accordance with Code Section 20-2-84.1.

Consequences shall be incurred upon noncompliance of a local school system with the accountability component of its contract; provided, however, that if a local school system has been in compliance with the accountability component of its contract for at least three consecutive years, consequences shall not be invoked upon the fifth year of the contract, and such school system may request an extension of its contract and corresponding flexibility from the state board. The schedule of interventions or sanctions, including loss of governance, for failure to meet identified levels of achievement or specified levels of progress shall be mutually agreed upon in the contract. If the Office of Student Achievement recommends to the state board that loss of governance not be included in a contract with respect to a high performing school, the contract may provide alternate terms with respect to that school.

20-2-84.1.

(a) The State Board of Education shall, as provided for in the contract entered into with a local school system pursuant to Code Section 20-2-83, mandate the loss of governance of one or more of its nonperforming schools as a consequence of failure pursuant to paragraph (2) of subsection (c) of Code Section 20-2-84. Such loss of governance may include, but shall not be limited to:

(1) Conversion of a school to charter status with independent school level governance and a governance board with strong parental involvement;

(2) Operation of a school by a successful school system, as defined by the Office of Student Achievement, and pursuant to funding criteria established by the state board; or

(3) Operation of a school by a private entity, nonprofit or for profit, pursuant to a request for proposals issued by the department.

(b) Loss of governance shall be invoked upon the fifth year of the contract if the school system is in noncompliance as set out in the terms of the contract.

20-2-84.2.

(a) The Office of Student Achievement shall revise the single state-wide accountability system established pursuant to paragraph (1) of subsection (a) of Code Section 20-14-26 for submission to the state board for approval to integrate the requirements of this article, to the greatest extent practicable, including, but not limited to, the loss of governance consequences provided for in Code Section 20-2-84.1.

(b) The Office of Student Achievement shall monitor each local school system's progress toward meeting its performance goals in its contract and shall the notify the department if a local school system is not in compliance with such performance goals. The department shall provide support and guidance to school systems not meeting their yearly progress goals.

20-2-84.3.

(a) No more than five local school systems in the first calendar year may enter into a contract with the State Board of Education pursuant to this article.

(b) No later than June 30, 2013, each local school system shall either notify the department of its intention to request increased flexibility pursuant to this article or shall comply with subsection (b) of Code Section 20-2-80.

20-2-84.4.

The department may offer other funding options for local school systems which choose to enter into a contract pursuant to this article and may also offer other funding options for charter systems.

20-2-84.5.

Except as otherwise provided in Code Section 20-2-84.4, this article shall not apply to a local school system which has become a charter system pursuant to Code Section 20-2-2063.2 or which is in the process of applying to become a charter system.

20-2-84.6.

The State Board of Education shall be authorized to establish rules, regulations, and guidelines to effect the implementation of this article."

SECTION 2.

Said chapter is further amended by revising Code Section 20-2-101, relating to appointment of local school superintendents, as follows:

"20-2-101.

(a) Superintendents of each school system shall be employed by the local board of education under written contracts for a term of not less than one year and not more than three years. Any provision of any such contract which provides for an extension of the duration of employment thereunder, whether automatic or contingent upon the occurrence of one or more events, shall be void if that extension would result in employment under the contract, as ~~so~~ extended, for a period which exceeds three years. ~~Those provisions of any local Act which authorize employment contracts with a school superintendent which are of a duration which exceeds that authorized by this subsection, which local Act became effective before, at the time of, or after April 15, 1993, are repealed. Any contract entered into pursuant to the provisions of a local Act repealed by the terms of the preceding sentence of this subsection shall not be affected by such repeal for the duration of that contract as specified immediately before April 15, 1993, as long as that contract was valid at such time.~~

(b) No person shall be eligible to be appointed or employed as superintendent of schools of any county or independent school system unless such person is of good moral character, has never been convicted of any crime involving moral turpitude, and possesses acceptable business or management experience as specified by the Professional Standards Commission or the minimum valid certificate or a letter of eligibility for said certificate required by the Professional Standards Commission.

(c) Superintendents shall have such additional qualifications as may be prescribed by local law or policies of the local board for that school district, not inconsistent with the provisions of this chapter.

(d) ~~This Code section shall not apply to any elected school superintendent in office on January 1, 1993, during the term of office for which that person was elected.~~

~~(e)~~ At any time during the 12 months immediately preceding the expiration of an appointed ~~or elected~~ school superintendent's contract or term of office, or when a vacancy in the office of school superintendent occurs, the local board may appoint and employ a successor in accordance with the above provisions of this Code section, notwithstanding that the terms of some or all of the board members will expire before the employment of the superintendent so appointed and employed begins. ~~Where a local board of education decides to appoint and employ the incumbent elected superintendent of the school district as the superintendent for a term beginning during 1996 or thereafter, or to renew the contract of any appointed superintendent, the board shall not be required to comply with the notice and announcement provisions of subsection (d) of Code Section 20-2-211 or any local policy adopted pursuant thereto.~~

(e) A local school superintendent may concurrently serve as a principal, teacher, or in another staff position as directed by the local board in its sole discretion and in accordance with the terms of the contract between the superintendent and the local board. A local school superintendent may also serve concurrently as superintendent of one or more local school systems in accordance with the terms of his or her respective contracts and upon approval by each affected local school system.

(f) No substantive or procedural right regarding employment or termination of employment of a superintendent by a local school system shall be created by this Code section. Rather, the terms and conditions of employment of a school superintendent by a local school system shall be determined exclusively by the contract between those parties and may include, without being limited to, the conditions under and procedures by which that contract may be terminated prior to the end of the term of that contract."

SECTION 3.

Said chapter is further amended by revising Code Section 20-2-244, relating to waivers to improve student performance, as follows:

"20-2-244.

(a) The State Board of Education is authorized to waive specifically identified state rules, regulations, policies, and procedures, or provisions of this chapter, upon the request of a local school board and in accordance with this Code section. The goal for each waiver shall be improvement of student performance.

(b) The State Board of Education is not authorized to waive any federal, state, and local rules, regulations, court orders, and statutes relating to civil rights; insurance; the protection of the physical health and safety of school students, employees, and visitors; conflicting interest transactions; the prevention of unlawful conduct; any laws relating to unlawful conduct in or near a public school; or any reporting requirements pursuant to Code Section 20-2-320 or Chapter 14 of this title. A school or school system that has received a waiver shall remain subject to the provisions of Part 3 of Article 2 of Chapter 14 of this title, the requirement that it shall not charge tuition or fees to its students except as may be authorized for local boards by Code Section 20-2-133, and shall remain open to enrollment in the same manner as before the waiver request.

(c) The provisions of this Code section shall not apply to charter schools.

(d) The board shall require a written application for a waiver that shall include, ~~as~~ at a minimum:

(1) Identification of the specific state rules, regulations, policies, and procedures, or provisions of this chapter that are requested for waiver;

(2) A description of the policies and procedures the school or school system shall substitute for the waived state rules, regulations, policies, and procedures, or provisions;

(3) A description of how the proposed waiver will improve student performance;

(4) A description of the students who will be affected by the proposed waiver, including their estimated number, current performance, grade level, and any common demographic traits;

(5) A list of schools by name that will be affected by the proposed waiver, and a description of each school, including current performance, grade levels, and demographic traits of the students of each such school;

(6) Methods for collection of data, and for measuring and evaluating any change in student performance resulting from the proposed waiver;

(7) The period of time for which the proposed waiver is requested and the proposed starting date; and

(8) A resolution from the local school board approving the waiver request.

(e) The State Board of Education may grant or deny a waiver request, or grant a waiver request subject to specified modifications in the waiver request.

(f) A waiver may be granted in accordance with this Code section for any period of time not to exceed five years. The State Board of Education shall require reports regarding the effect of the waiver at least annually, and may require more frequent reports if necessary to monitor the effect of the waiver effectively. The State Board of Education shall report annually to the General Assembly regarding the waivers granted, the effect of each waiver, and any recommendations for legislative changes generated by successful waivers.

(g) On and after July 1, 2008, the State Board of Education shall not authorize any waivers or variances pursuant to this Code section to any local school system for the following:

(1) Class size requirements in Code Section 20-2-182; provided, however, that the state board shall be authorized to waive class size requirements pursuant to this Code section on and after July 1, 2008, in the event that a local school system can demonstrate a hardship pursuant to a waiver request;

(2) Expenditure controls in Code Section 20-2-171 and categorical allotment requirements in Article 6 of this chapter;

(3) Certification requirements in Code Section 20-2-200; or

(4) Salary schedule requirements in Code Section 20-2-212.

A local school system which has received a waiver or variance pursuant to this Code section prior to entering into a contract pursuant to Article 4 of this chapter shall be required to include such waiver or variance in such contract."

SECTION 4.

All laws and parts of laws in conflict with this Act are repealed.

Appendix F8: IE2 Legislation

Code: IAB(5)

160-5-1-.33 SCHOOL DISTRICT CONTRACTS FOR FLEXIBILITY, AND ACCOUNTABILITY TO IMPROVE STUDENT ACHIEVEMENT.

(1) PURPOSE.

(a) The purpose of this rule is to allow local school districts to request increased flexibility from certain state laws, rules, and regulations in exchange for increased accountability and defined consequences through a contractual agreement with the State Board of Education under O.C.G.A. § 20-2-80.

(2) DEFINITIONS.

(a) **Accountability Measure** –performance measures and benchmarks for evaluating improvement and achievement and monitoring progress toward yearly performance goals.

(b) **GaDOE –** Georgia Department of Education; the department.

(c) **GOSA** – Governor's Office of Student Achievement.

(d) **High performing school**- a school that has made Adequate Yearly Progress (AYP) according to the Single Statewide Accountability System.

(e) **Single Statewide Accountability System (SSAS)** – a unified system by which all Georgia public schools are measured for accountability purposes as defined in O.C.G.A § 20-14-30 through O.C.G.A. § 20-14-41 and State Board of Education Rules, 160-7-1-.01 Single Statewide Accountability System, 160-7-1-.02 Accountability System Definitions, 160-7-1-.03 Accountability Profile, and 160-7-1-.04 Accountability System Awards and Consequences.

(f) **Unforeseen Circumstance** - material changes to state or federal law or other unforeseen conditions as determined by the State Board.

(3) REQUIREMENTS.

(a) General Requirements.

1. GaDOE shall develop guidance materials related to the accountability, flexibility, and consequences of the contract submission process.

2. The GaDOE shall develop the necessary guidelines which shall include among other things, a submission timeline and the GaDOE shall annually notify school districts regarding the dates for application, review and approval.

3. GaDOE in consultation with the GOSA shall establish processes and procedures for the review of school district contracts.

4. Except as otherwise provided in O.C.G.A. § 20-2-84.4, local school districts which have become charter systems pursuant to O.C.G.A. § 20-2-2063.2 or that are in the process of applying to become a charter system shall not be eligible to enter a contract pursuant to this rule.

(b) Contract Terms.

1. Contract terms shall be negotiated between the local school district, the GaDOE and GOSA. Once the parties have agreed, the final contract may be subsequently adopted and executed by both local board of education and the State Board of Education.

2. All initial contracts shall be for a term of five (5) years. (O.C.G.A. § 20-2-83 (c))

3. Contracts may be extended by the State Board of Education if the system successfully meets the terms of the contract for at least three or more consecutive years of the five year contract. (O.C.G.A. § 20-2-84 (c))

4. Beyond the initial five–year term, contracts can be renewed if a school district's performance meets the contract goals, for up to five additional years. Contracts cannot be renewed beyond a maximum term of ten (10) years.

5. Local school districts seeking increased flexibility provisions shall complete an electronic contract template provided by the GaDOE in accordance with O.C.G.A. § 20-2-81 and guidance which shall include at least the following:

(i) Grade levels served for each school in the system;

(ii) Student demographic data for the system and each school;

(iii) Most current AYP results for the system and its schools, by subgroup;

(iv) School improvement plans and achievement goals for the system and each school by subgroup; and

(v) Specific accountability measures that will be used to monitor and evaluate the progress of the system and its schools for the term of the contract.

6. In exchange for the increased flexibility a school district is requesting, the specific contract proposal must include accountability provisions (i.e., indicators and measures) that meet or exceed the accountability provisions established by the Elementary and Secondary Education Act of 1965 and the Georgia Single Statewide Accountability System.

7. A school district with non-high performing schools at the initiation of the contract may participate but must provide indicators and measures as to how these non-high performing

schools will achieve and exceed high performing school status within the five (5) year contract period. Indicators and measures for schools in this situation should focus on student-defined subgroups that will help propel the school into high performing status.

8. School districts shall propose and negotiate with the GaDOE at least two (2) accountability measures for each school in the school district. Additionally, the number of accountability measures must be proportional to the amount of flexibility being requested. Greater numbers of accountability measures will be required as the request for flexibility increases. The GaDOE and GOSA shall ensure that all accountability measures are appropriate to a school's academic and operational environment and that they are sufficiently rigorous. The school district's contract must include at least one accountability measure from each category:

(i) Category 1 –student achievement measures must include at least one of the following:

(I) High school graduation rates;

(II) SAT or ACT performance;

(III) State standardized test data as defined in SBOE Rule 160-3-1-.07 Testing Programs – Student Assessment; or

(IV) Advanced placement or international baccalaureate participation and performance.

(ii) Category 2 –At least one accountability measure pursuant to O.C.G.A. § 20-14-30 through 20-14-41.

9. The flexibility component of the contract shall include the waiver or variance of at least one of the following areas:

(i) Class size requirements as provided in O.C.G.A. § 20-2-182;

(ii) Expenditure controls as provided in O.C.G.A. § 20-2-171 and also categorical allotment requirements in Article 6 of this chapter;

(iii) Certification requirements as provided in O.C.G.A. § 20-2-200;

(iv) Salary schedule requirements as provided in O.C.G.A. § 20-2-212; and

(v) Any other requirements or provisions of this chapter as identified by the local school district and approved by the State Board of Education except as provided in subsection (c) of O.C.G.A. § 20-2-82.

10. The consequences component of the contract shall adhere to the provisions of O.C.G.A. § 20-2-84 and O.C.G.A. § 20-2-84.1.

11. All contract proposals received from local school districts and all contracts approved by the local board and submitted to the state board for approval must clearly state the following:

(i) The minimum number of accountability measures for each school;

(ii) The specific flexibility requested, as provided in O.C.G.A. § 20-2-84 (b);

(iii) The specific consequences and sanctions for failure to meet the terms of the contract which shall also include the loss of governance provisions for schools that fail to meet the contract requirements; and

(iv) Any other provisions determined by the GaDOE necessary to comply with federal and state laws, rules, regulations, guidelines or guidance. This shall be accomplished in consultation with GOSA.

12. The State Board shall not be authorized to waive or approve variances on any federal, state, and local rules, regulations, court orders, and statutes relating to civil rights; insurance; the protection of the physical health and safety of school students, employees, and visitors; conflicting interest transactions; the prevention of unlawful conduct; any laws relating to unlawful conduct in or near a public school; or any reporting requirements pursuant to O.C.G.A. § 20-2-320 or Chapter 14 of Title 20. A local school district that has received a waiver or variance shall remain subject to the provisions of Part 3 of Article 2 of Chapter 14 of Title 20, the requirement that it shall not charge tuition or fees to its students except as may be authorized for local boards by O.C.G.A. § 20-2-133, and shall remain open to enrollment in the same manner as before the waiver request.

(c) Contract Procedures.

1. Acceptable performance targets for each accountability measure shall be negotiated between the school district, and the GaDOE in consultation with GOSA.

2. The GaDOE, in consultation with GOSA, shall make a recommendation to the State Board on whether the proposed terms of the contract should be approved by the State Board of Education. (O.C.G.A. § 20-2-82 (c))

3. For a finalized contract to be in full effect, it must be approved by the both the local board of education and the State Board of Education.

4. The State Board of Education shall have final authority for the acceptance and approval of accountability measures, flexibility and consequences.

5. The terms of the contract may be amended only if warranted due to unforeseen circumstances and upon approval of the State Board of Education and the local board of education. (O.C.G.A. 20-2-83 (d))

(d) Monitoring and Support.

1. As required in O.C.G.A § 20-2-84.2 (b), GOSA shall:

(i) Annually monitor each school district and its schools with regards to their progress toward meeting the intermediate and five-year performance goals in its contract;

(ii) Notify the GaDOE if a local school district is not in compliance with those goals.

2. GaDOE shall provide support to school districts for schools that are not high-performing schools in accordance with the 160-7-1-.04 Accountability System Awards and Consequences.

(c) Timeline for Intent to Participate.

1. For systems that choose the status quo, and opt to remain under all current laws, rules, regulations, policies, and procedures, and such local school district shall:

(i). No later than June 30, 2013, each local school district shall either notify the GaDOE of its intention to submit a contract for increased flexibility or notify their constituents that they are opting for the status quo.

(ii). Conduct a public hearing for the purpose of providing public notice that such local school district is opting for the status quo. The public hearing shall be advertised in a local newspaper of general circulation which shall be the same newspaper in which other legal announcements of the local board of education are advertised; and

(iii). Sign a statement on a form provided by the State Board that such local school district is opting for the status quo.

Authority O.G.C.A. § 20-2-80; 20-2-81; 20-2-82; 20-2-83; 20-2-84; 20-2-84.1; 20-2-84.2; 20-2-84.3; 20-2-84.4; 20-2-84.5; 20-2-84.6.

Adopted: October 9, 2008 **Effective: October 29, 2008**

IE^2 Partnership Contract

Come now the Gwinnett County Board of Education (Local Board) and the State Board of Education (State Board) and enter into this contract (the Contract) on the 8th day of January 2009.

WHEREAS, pursuant to O.C.G.A. § 20-2-81, the Local Board has developed a five-year strategic plan for improving the performance of its schools; and

WHEREAS, the Local Board has proposed a Contract outlining its strategic plan for each of its schools (School Plans) including accountability, flexibility, and consequences as contemplated by state law; and

WHEREAS, pursuant to O.C.G.A. § 20-2-82, the Local Board has entered into negotiations with the Georgia Department of Education (the Department) in consultation with the Governor's Office of Student Achievement (GOSA) concerning the proposed School Plans.

NOW, THEREFORE, in consideration of the benefits and duties contained herein, the parties hereby agree as follows:

1. Local Board. The Local Board agrees that, in exchange for the flexibility outlined in Paragraph 2 of the School Plans, it will achieve the accountability goals outlined in Paragraph 3 of the School Plans. The Local Board further agrees that if a school fails to meet its accountability goals, the Local Board will implement no later than the date specified herein the consequences outlined in Paragraph 4 of the respective non-performing school's School Plan. The Local Board shall cooperate with GOSA as it monitors the performance of the schools under its jurisdiction.
2. Governor's Office of Student Achievement (GOSA). In accordance with state law, GOSA will monitor the Local Board's school district and schools with regard to their progress toward meeting their intermediate and five-year performance goals as outlined in Attachment A. If a school district or any of its schools are not in compliance with these goals, then GOSA will notify the State Board and the Georgia Department of Education (GaDOE) accordingly.
3. Georgia Department of Education (GaDOE). The GaDOE shall provide support to the Local Board's schools that are not high-performing in accordance with State Board Rule 160-7-1-.04 Accountability System Awards and Consequences.
4. Term of Contract. This Contract will be for an initial term of six (6) years. (Initial Term) Under no circumstances shall the Contract be extended or renewed beyond a term of eleven (11) years.
5. Contract Extensions. This Contract may be extended on an annual basis beyond the Initial Term if the Local Board successfully meets the terms of the Contract for at least three or more consecutive years as determined by the State Board.

6. Contract Renewal. Prior to the end of the Initial Term, this Contract may be amended and renewed for up to five additional years. Renewal is conditional upon a Local Board's satisfactory compliance with the terms of this Contract as determined by the State Board.

7. Amendments. No amendment, change, or modification to this Contract will be binding upon the parties unless such amendment, change, or modification is made in writing as an amendment to this Contract and duly executed by all parties. In accordance with state law, the terms of this Contract may be amended only due to unforeseen circumstances as determined by the State Board of Education or as otherwise expressly permitted by law.

8. Incorporation of Documents. For each school under the direct jurisdiction of the Local Board, a School Plan containing accountability, flexibility, and consequences components has been negotiated by the parties. These School Plans, including Attachment A, are hereby incorporated into and made a part of this Contract. Collectively, these School Plans shall constitute a System Plan.

9. Termination. The State Board may terminate this Contract upon ninety (90) days written notice to the other party for reasonable cause. This Contract shall terminate automatically upon execution by all parties of a new partnership contract.

10. Authority. Each party represents and warrants that it has the authority to enter into this Contract and that its governing body has authorized, by proper action, the execution and delivery of this Contract. Each party represents that there is no litigation or proceeding pending or, to its knowledge, threatened against it having a

material adverse effect on the right of the party to execute this Contract or the ability of the party to comply with any of its obligations under this Contract.

11. Venue and Governing Law. Any action brought by one party to this Contract against the other party shall be brought in the Superior Court of Fulton County and this Agreement will be governed by and construed in accordance with Georgia law.

12. Headings. The headings in this Contract have been inserted for convenience of reference and shall not affect, expand, or restrict the terms or conditions hereof.

13. Waiver. No party will be deemed to have waived any provisions of this Contract unless such waiver is made explicit in writing and signed by the party waiving such provision. No waiver shall be deemed to be a continuing waiver unless so stated in writing.

14. Assignment. This Contract shall not be assigned or transferred unless consented to in writing by the Georgia Department of Education.

15. Severability. If any provision of this Contract is held to be invalid, illegal, or unenforceable for any reason, the validity, legality, and enforceability of the remaining provisions of this Contract will not be adversely affected.

16. Notices. Any notice to be made by either party to the other shall be sufficiently made if delivered in hand, or three (3) calendar days after posting, if sent by registered or certified mail, return receipt requested, to a party hereto at the address set forth below or such other address as a party may designate by notice hereto.

17. Consequences.

(a) The consequences for not achieving performance goals outlined in this partnership contract include monitored, then directed, management of the school

and school processes by GCPS. Local district sanctions will be in place before the fifth year of measurement of the performance goals. GCPS will also comply with all interventions or sanctions required pursuant to O.C.G.A. Section 20-14-41 and State Board Rule 160-7-1-.01.

(b) Should one or more schools be deemed out of compliance by the Governor's Office of Student Achievement and the State Board of Education as provided by law and rule, the consequence implemented by GCPS will be to institute loss of governance by completing and implementing processes for conversion charter school status and loss of all flexibility permitted by the Contract.

18. Annual Review. District staff will work with the Governor's Office of Student Achievement in consultation with the Department in monitoring of the School Plans as outlined in the rule and defined in each School Plan. Monitoring will include evaluating each school's progress toward meeting its performance goals. Significant changes in school achievement levels and/or student populations will be considered by GOSA at the end of the contract year and may initiate the review of subsequent performance goals.

19. This contract shall become effective on July 1, 2009 and, unless extended or renewed, will end on June 30, 2015, unless consequences are imposed. However, all flexibility provisions of this contract will end on June 30, 2014.

20. Time. Time is of the essence for this Contract.

Appendix F9: Example of IE2 Contract

FOR DEPARTMENT:

Attention: Clara J. Keith,

Deputy Superintendent for Policy and External Affairs

Georgia Department of Education

205 Jesse Hill Jr. Drive,

2053 Twin Towers East

Atlanta, Georgia 30334

Phone: 404-657-4209 Fax: 404-656-0966

FOR the LOCAL EDUCATIONAL AGENCY:

Carole Boyce, 2008 Chairman

Gwinnett County Board of Education

437 Old Peachtree Road, NW

Suwanee, GA 30024

Phone: 678-301-6040

Fax: 678-301-6030

J. Alvin Wilbanks, CEO/Superintendent

Gwinnett County Public Schools

437 Old Peachtree Road, NW

Suwanee, GA 30024

Phone: 678-301-6010

Fax: 678-301-6030

IN WITNESS WHEREOF, the parties state and affirm that they are duly authorized to bind the respected entities below as of the day and year indicated.

GEORGIA DEPARTMENT OF EDUCATION

Wanda L. Barrs

Wanda Barrs, Chairperson, State Board of Education

Kathy Cox

Kathy Cox, State Superintendent of Schools

PUBLIC SCHOOL DISTRICT

Carole Boyce

Carole Boyce, 2008 Chairman, Gwinnett County Board of Education

J. Alvin Wilbanks

J. Alvin Wilbanks, CEO/Superintendent, Gwinnett County Public Schools

Appendix F10: Educational Leadership Rule 505-2-.300

Effective April 15, 2008

505-2-.300 EDUCATIONAL LEADERSHIP

(1) This rule continues a major redesign effort focused on how we prepare and certify Educational Leaders in the state of Georgia. Recognizing the impact that leaders have on 21st century school improvement and student achievement, this initiative incorporates a number of components, such as: new preparation program standards which include a performance-based, advanced degree requirement (see PSC Rule 505-3-.58); a new state content assessment (see Georgia Assessment for the Certification of Educators™ [GACE™]); and, a new certificate structure which not only differentiates between building-level and system-level leadership duties but is directly connected to the specific job held by the educational leader. These changes will affect educators who will obtain leadership certification in the future, those already holding Georgia Leadership certificates, those currently enrolled in leadership programs and educators moving to Georgia with out-of-state leadership preparation and/or certificates. It is the intent of this "transition" rule to:

(a) establish the specific requirements, procedures and in-field statement for the new certificates; and,

(b) address the transition status for those holding the "old" Georgia Educational Leadership Certificate; and,

(c) address the impact on Interstate Reciprocity for out-of-state leadership certificates, preparation programs and assessments; and,

(d) outline the phased implementation schedule for coordinating all of the components.

(2) DEFINITION OF A LEADERSHIP POSITION. Positions requiring a Leadership certificate are those in which an individual has the authority and/or responsibility, in a supervisory role, for Board-approved educational programs and/or personnel required to hold certification for their assigned job as determined by the Professional Standards Commission. (See Rule 505-2-.26 IN-FIELD ASSIGNMENTS). It is the responsibility of the Superintendent to ensure that all system employees are properly certified.

(a) Prior to the DECEMBER 15, 2007 rule changes, Leadership Endorsements existed for the positions of Director of Media Centers, Director of Pupil Personnel Services, Director of Special Education, Director of Technical/Career Education and Instructional Supervision. Effective SEPTEMBER 30, 2009, no new endorsements in those fields will be issued, however those already issued prior to that date shall continue in effect, subject to routine renewal. After SEPTEMBER 30, 2009, personnel assigned to these positions without the "old" endorsement must hold a valid certificate in the field of Educational Leadership. (See PSC Rule 505-2-.350).

(3) Rules and policies governing the state salary scales, which are determined in part by the certificate level and currently based on the highest degree or equivalent held by the educator, are under the jurisdiction of the Georgia Department of Education and the State Board of Education, not the Georgia Professional Standards Commission. This PSC rule results in no change to existing Georgia Department of Education salary rules.

(4) NEW LEADERSHIP CERTIFICATION OVERVIEW.

(a) NEWLY PREPARED IN GEORGIA. The general process for individuals prepared under the new leadership design establishes the following framework:

1. An initial *"pool"* of pre-service leadership candidates created through a master's-degree level (or higher) / GACE assessment process resulting in a 5-year Non-Renewable Leadership (NL) certificate. These educators are eligible for employment in leadership positions. Additional details are outlined in paragraph (7)(c), below;

2. Upon selection and employment in a leadership position, educational leaders will hold a Non-Renewable Performance-Based Leadership (NPL) certificate and have 5 years to complete a Georgia PSC-approved, performance-based leadership program at the Specialist (Level 6) or Doctoral (Level 7). These performance-based programs are offered at the building-level or system-level, based on the specific job assignment of the educator. Individuals serving in the position of Superintendent and individuals assigned concurrent job responsibilities at both the building and system level must hold both the building AND system-level certificates;

3. Upon completion of these performance-based programs, the educator is recommended by the PSC-approved provider for a clear renewable, performance-based leadership (PL) certificate at the building or system level. Additional details are outlined in paragraph (7)(a), below.

(b) PRE-EXISTING GEORGIA LEADERSHIP CERTIFICATES. Individuals issued a clear renewable Leadership (L) certificate at Levels 5, 6 or 7 under the "old" system prior to SEPTEMBER 30, 2009, will continue to hold that certificate (subject to renewal) and remain eligible to serve in leadership positions. These educators, however, will not automatically receive the rigorous, Performance-Based designator. At their discretion, they may choose to add the Performance-Based designator to their leadership certificate by completing a PSC-approved program at a higher degree level or by completing the certificate-only performance-based requirements as outlined by the PSC-approved provider. Additional details are outlined in paragraph (7)(a)3.(iii), below.

(i) Educators admitted into the "old" Georgia Leadership programs must complete all program requirements and have a completed certificate application packet, including the college recommendation form, submitted to the PSC not later than SEPTEMBER 30, 2009. Since these individuals were admitted under the "old" program requirements, they will be issued the "L" certificate, not the Performance-Based Leadership (PL) certificate.

(ii) Individuals who are offered a new leadership position and hold an expired "L" Leadership certificate that was issued under the old system may, at the request of the employing school system, apply for a 1-year Non-Renewable Leadership Certificate. During that validity period, the educator must complete renewal requirements, as outlined in PSC Rule 505-2-.24, paragraph (6)(b)2.(ii).

(c) INTERSTATE (OUT-OF-STATE) RECIPROCITY. Individuals holding out-of-state leadership certificates must apply for initial Georgia certification and satisfy all Special Georgia Requirements (See Rule 505-2-.20). Those who meet all requirements will be issued a clear renewable Leadership (L) certificate at the appropriate degree level (L-5, 6 or 7). If the highest degree is a master's degree, these individuals may, but are not required to obtain a higher degree. Those who do not satisfy all Special Georgia Requirements will, at the request of the employing school system, be issued a one-year non-renewable leadership certificate during which time the Special Georgia Requirements must be met. Educators holding either of these certificates based on the reciprocity process will be eligible for employment in a leadership position. At their discretion, these educators may or may not choose to add the Georgia Performance-Based designator to their leadership certificate by completing a PSC-approved program at a higher degree level or by completing the certificate-only performance-based requirements as outlined by the PSC-approved provider. Additional details are outlined in paragraph (8), below.

Appendix F10: Educational Leadership Rule 505-2-.300

1. Effective SEPTEMBER 30, 2009, those educators employed by a Georgia school system who complete a non-PSC approved out-of-state initial leadership program and apply for Georgia leadership certification are eligible for an upgrade of all existing Georgia certificates to the appropriate degree level. Those who do not satisfy all Special Georgia Requirements, to include the GACE leadership assessment, will NOT be issued a leadership certificate until all Special Georgia requirements are met. Once all requirements are met, the educator may apply for and be issued a 5-year Non-Renewable Leadership (NL) certificate. Upon employment in a leadership position, these individuals will follow the same process outlined in paragraph (7)(a)3., below.

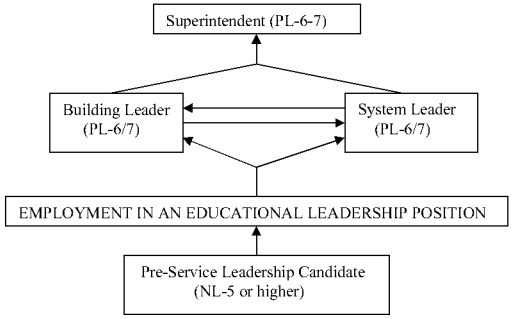


FIGURE 1: NEW PERFORMANCE-BASED LEADERSHIP PREPARATION/CERTIFICATION FRAMEWORK

(5) CONTENT ASSESSMENT. The content assessment required for the Leadership Certificate is currently in a "transition phase" as we move from the PRAXIS to the GACE (Georgia Assessments for the Certification of Educators).

(a) The Praxis II Leadership assessment will continue to be accepted if it is passed by MARCH 15, 2008. If a passing score is not achieved by the March 15, 2008 Praxis test administration, then regardless of the date of certificate application the Praxis assessment will NOT BE ACCEPTED and the applicant must satisfy the GACE Leadership Assessment.

(b) The first GACE Leadership Assessment will be administered on JUNE 14, 2008. Registration information, test sites and study materials are available on the website at www.gace.nesinc.com .

(6) IMPLEMENTATION TIMELINE. While the effective date of this rule will be JANUARY 15, 2008, specific requirements and components will be phased-in on the following projected dates:

JAN 15, 2008 Leadership Certification Rule 505-2-.300 Effective

Draft Standards for Effective Governance of Georgia School Systems
2010

"Without undervaluing any other human agency, it may be safely affirmed that the Common School, improved and energized, as it can easily be, may become the most effective and benignant of all the forces of civilization."

– Horace Mann (1796-1859)[1]

"Schools are major public institutions in our democracy. They serve the public and are a key link between democracy and education. School board members are critical to the principle of public accountability. Public schools are the ultimate in grass roots democracy."

– The Commission for School Board Excellence (2008)

INTRODUCTION

The Georgia State Board of Education is committed to accountability at each level of the K-12 system of education. Rigorous standards for students and educational professionals have been implemented in recent years. Consistent with this theme of high standards and accountability, and consistent with the State Board's existing statutory authority (see statutory references, p. 4), the Board believes that education governing bodies, including the State Board itself, must meet high standards and serve within the context of a strong system of accountability. The State Board of Education has put in place a process to create and adopt new standards for local school boards in the State of Georgia. The overarching intent of this process is to assure best practices to generate the best education boards who assure the best polices for high student achievement.

In 2008, the Commission for School Board Excellence was asked by the State Board of Education and State Superintendent to examine Georgia's public school systems' board governance. Among other recommendations, the Commission recommended that the State Board "convene a Task Force of education leaders and organizations to address the following three areas of school board focus:

- board roles and responsibilities
- state-wide school performance standards
- comprehensive board member education and proficiency

Task force participation could include individuals from GSBA, GSSA, AdvancED, SACS, DOE and other business and community leaders."[2]

In response to the recommendation, the State Board appointed the School Board Standards Task Force in January of 2009. The Task Force was charged to develop, vet, and recommend Standards for Local School Boards to the State Board of Education. The net effect of this initiative will be to strengthen and undergird local control of school systems through the continuing development of the highest quality public servants who model effective school board governance within their communities.

[1] Introduction, 2008-09 Edition Education Policy Primer

[2] Final Report, The Commission for School Board Excellence

Appendix F11: Local Board of Education Ethics Standards

Task Force members were selected from state education organizations, local boards, business and industry, and the community at-large. Wanda Barrs and Phil Jacobs served as co-chairs of the Task Force. Members of the task force are identified below:

State Board of Education

Wanda Barrs
Jim Bostic

Local Boards of Education

Ronald Hopkins – Jefferson City Schools
Janet Read – Cherokee County
Sylvia Vann – Lee County

Local Superintendent

Sabrina Boykins-Everett –Thomasville City

Business/Civic

Phil Jacobs
Dave Peterson
Helen Lollis

Education Organizations

AdvancedEd

Mark Elgart

Department of Education (DOE)

Clara Keith

Georgia School Boards Association (GSBA)

Sis Henry

Georgia School Superintendents' Association (GSSA)

Herb Garrett

Governor's Office of Student Assessment (GOSA)

Kathleen Mathers

Georgia Partnership for Excellence in Education (GPEE)

Steve Dollinger

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FOUNDATIONS OF THE TASK FORCE RECOMMENDATIONS

Public Education In Georgia

Public schools in America hold a special place in the history and development of our country and culture. Local public schools have been around for over two centuries in various forms and now educate 1.6 million students or 92% of school age children in Georgia. Under the State Constitution, public school systems in Georgia are subdivisions of government established to fulfill the American vision of public education. Today, public schools are still the foundation of our society and are the largest single spending items in local and state budgets.

School systems are the local, logical and legal organization to deliver on this precious belief. But schools and the school systems they populate have been bombarded by external and internal forces that have distracted less able boards from their mission: to teach and educate our children for their future community roles as parents, employees, and citizens.

The board today is pulled in numerous directions due to the variety of constituencies and demands placed on the board from the Federal government, State DOE, the local electorate, the parents, and the education community. It is critical that a governance model is selected that narrows the board's focus and provides clear direction and priority to maneuver through these demands.

Boards must utilize governance systems that clearly delineate their scope and focus. Boards must address "ends" not "means". It is the superintendent and school leadership that focus on "means".

With our school systems under pressure from every quarter, and with standards throughout the world exceeding those of most of our schools and students, is it any wonder that school board governance is such a critical topic. In Georgia, the local elected school board members represent the community in its oversight and fiduciary responsibility. There is a newfound urgency that student achievement should be the primary focus of that attention and, with the exception of safety and civil rights, all other measures and outcomes are secondary.

The Board Governance Model

An effective governance model familiar to corporate and public sector leaders is the Board Governance model. The board model of oversight for public education permits public scrutiny and lies at the heart of the school board of governance. Citizen "ownership" is fundamentally different from traditional management.

School board governance is based upon the trusteeship ideology that the board works as one body representing the entire community. Imbedded in the concept of board action on behalf of a larger group of citizen owners, is a shared focus on results, a good faith and honest effort to fulfill the oversight role. Governance of a school board acts for the owners to ensure that the current executive officer fulfills the mission of the organization and ensures its future sustainability. This understanding of a legal and logical entity held accountable is at the core of the American business model. The entity is run by executives, and those executives are accountable to the shareholders through a board of directors.

To quote John Carver, "board governance represents ownership one level down, not management one level up." School boards, as with corporate boards, must ensure that the school system

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fulfills its mission while ensuring confidence in the process of governance. Boards, individually and collectively, must model leadership integrity and instill confidence in the governance team. Effective boards ensure good stewardship of funds; demonstrate ethical behavior, plan for and support system-wide student achievement of accepted standards. Along with mission alignment, it is common on most for-profit and non-profit boards that certain behaviors are expected: professional courtesy, open and enlightening discussion about future plans and requirements for results from current outcomes and operations.

The Enterprise of Schooling as A Starting Point

The Task Force began with an understanding that it is critical to first understand the nature of the enterprise in which contemporary schools are currently engaged. In other words, the members realized that before one can write standards for school system boards, it is important to first understand the nature of the goals and core operations of a school system. Experts from across the country provided a background that enabled the Task Force to become grounded in the work of school systems as springboard for developing the standards that follow.

Roles and Responsibilities

Consistent with the language of the final report of the Commission on School Board Excellence, the Task Force believed that the role of the board as a strategic, policy-making body must be specifically delineated from the administrative, managerial role of the superintendent and staff. Experts recommend a clear delineation be made between the role of the board, the superintendent and of the overarching role of the board/superintendent governance team. Management *oversight* is a major board responsibility. What does oversight mean for school boards? McAdams clarifies by saying, "Management oversight *is not* influencing management decisions before they are made or reviewing management decisions after they are made. It *is* guaranteeing the integrity of major management systems and processes and reviewing results."[2] The standards that follow seek to incorporate these insights into the roles and responsibilities of the school board and the superintendent.

Key Assumptions and Definitions

The Task Force recommends a new lexicon for articulating the roles and duties of the local school board and for distinguishing the focus and duties of the board and of the superintendent, while also recognizing the high degree of interdependence and strong partnership required for effective governance. In order to reinforce the notion of partnership and address the vague and often confusing language that currently exists in this area, the standards employ the term *governance leadership team* to identify the leadership group composed of the board and superintendent. This group is distinguished from the *management leadership team*, which is usually composed of the superintendent and senior school system administrators.

The Task Force also focused on clarity in the structure of the standards. Consistent with the language associated with school and student standards developed in recent years, the Task Force adopted the following definitions for the components of the standards:

- *Domain:* a set of standards that reflects a common theme.
- *Domain description:* the overarching statement that describes the thematic connection among the standards in the domain.

[2] Donald R. McAdams, "Management Oversight But Not Management", *The School Administrator*, September, 2004.

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- *Standard:* an action statement that defines the broad expectations for an area of knowledge, skill, or performance in a given domain and may include an expectation of the degree to which that knowledge, skill, performance is demonstrated.
- *Element:* a measurable part of the standard that identifies specific quality goals associated with the standard.

Using these structural definitions, the standards that follow are organized into eight domains:

Domain I: Governance Structure
Domain II: Vision and Goals
Domain III: Board/Staff/Community Relations
Domain IV: Policy Development
Domain V: Board Meetings
Domain VI: Personnel
Domain VII: Financial Governance
Domain VIII: Ethics

From Compliance to Accountability

A final principle associated with the standards is the evolution from a compliance-based model to a performance-based model. Simply stated, the Task Force amended the process that is often used to develop standards for job performance. The traditional process typically examines the roles and responsibilities of persons in the role and describes the desirable behavior associated with these roles and responsibilities. The Task Force, recognizing that a new level of performance is needed from school board members, took the approach of considering how the role of the school board member should evolve to meet the demands of the current social, political, and economic context, and developed prescriptive language for the standards. In other words, the Task Force moved from simply *describing* what *is*, to *prescribing* what *should be*. Such prescriptive language is perhaps most evident in the emphasis on the shared governance responsibilities of the board and superintendent, the careful delineation of the respective roles of each, and in the repeated emphasis on the board's primary focus on improving student achievement and assuring effective operations. In order to increase the likelihood that these expectations are fulfilled, the Task Force emphasized that when a standard is articulated, it is elaborated with elements that describe knowledge, behavior, and/or skills that describe effective board performance associated with the standard.

Statutory References:

Georgia Code § 20-2-230(b) includes the following:
"All new members of governing boards of local units of administration shall, before or within one year after assuming office, receive at least 12 hours of orientation to the educational program objectives of Georgia and instruction in school finance; school law, with special emphasis on the "Quality Basic Education Act"; responsiveness to the community; the ethics, duties, and responsibilities of local governing board members; annual performance evaluation of the school superintendent and the local board of education; and such other topics as the State Board of Education may deem to be necessary; provided, however, that at least six of these 12 hours of training shall be specifically related to education finance, generally accepted accounting principles, and budgeting."

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Appendix F11: Local Board of Education Ethics Standards

Georgia Code § 20-2-240(a) further asserts:
"The State Board of Education shall adopt and prescribe all rules, regulations, and policies required by this article (Article 6) and such other rules, regulations, and policies as may be reasonably necessary or advisable for proper implementation, enforcement and carrying out of this article and other public school laws and for assuring a more economical and efficient operation of the public schools of this state or any phase of public elementary and secondary education in this state."

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Draft Standards for Effective Governance of Georgia School Systems

Domain I: Governance Structure	
Domain Description: The board of education and superintendent form the governance leadership team of the local school system, in order to improve student achievement and organizational effectiveness.	
Standards	**Elements**
A. The governance leadership team is comprised of the local board of education and the superintendent, and adheres to appropriate roles and responsibilities, as defined in the state constitution, state law, local act and board policy.	1. The board elects officers using procedures defined in state law, local legislative act or local board policy. 2. The board designates the superintendent as the Executive Officer of the school system and fully delegates the authority to provide educational leadership, manage daily operations, and perform all duties as assigned by law. 3. The superintendent acts as board secretary.
B. The board of education executes its duties as defined in the State Constitution, State Laws, and State Board rules consistent with local board policies, accreditation standards, procedures and ethical standards, which govern its conduct.	1. The board establishes and follows local board policies, procedures, and ethical standards governing the conduct of the board and individual board members. 2. The board adopts, commits to, and follows a Code of Ethics, including a conflict-of-interest policy.
C. The board acts as a policy-making body separate from the roles and responsibilities authorized to the superintendent.	1. The board establishes and follows written policies governing its work in compliance with state law, local legislative act and policy. 2. The board fully delegates operational issues to the superintendent and school system personnel.
D. The governance leadership team demonstrates a unified approach to governing the school system in order to assure effective fulfillment of roles and responsibilities.	1. The governance leadership team participates in annual professional development that meets or exceeds the requirements of Georgia law and the State Board of Education. 2. The governance leadership team differentiates professional development curriculum and delivery for the whole board and individual members based upon the experience and needs of members. 3. New members are provided with induction, orientation, and mentoring in order to support their effectiveness as members of the governance leadership team.

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Domain II: Strategic Improvement Planning	
Domain Description: The governance leadership team, in collaboration with the community, provides input to adopts, and monitors, a system strategic improvement plan for improving student achievement and organizational effectiveness.	
Standards	**Elements**
A. The governance leadership team provides input to and adopts the system strategic improvement plan.	1. The governance leadership team, in collaboration with the community, provides input to and adopts a strategic improvement plan that contains the system's beliefs, vision, mission, and strategic goals, performance objectives, performance measures and targets for improving student achievement and organizational effectiveness. 2. At least annually and as needed, the governance leadership team reviews, assesses and readopts the system strategic improvement plan.
B. Annually and as needed, utilizing the adopted strategic improvement planning process, the governance leadership team monitors and reports progress on performance measures.	1. The board implements board action plan for monitoring and reporting performance objectives, performance measures and targets and effectiveness that is aligned with the school system's strategic improvement plan. 2. The governance leadership team participates in professional development focused on the development, implementation and assessment of the school system's strategic improvement plan. 3. The governance leadership team annually and as needed self-assesses performance in fulfilling its duties, responsibilities, and ability to work as a team in support of implementing the strategic improvement plan. 4. The governance leadership team meets annually in a retreat setting to: • Analyze appropriate data to assess progress toward fulfilling the school system's strategic improvement plan • Assess the strengths and needed improvements of the school system • Address compelling problem(s) or emerging issue(s) that may prevent the school system from accomplishing its strategic improvement plan • Identify and address emerging opportunities for advancing the school system's strategic improvement plan. • Self-assess the governance leadership team's educational, governance and leadership performance.

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Appendix F11: Local Board of Education Ethics Standards

DOMAIN III: Board and Community Relations	
Domain Description: In order to ensure improved student achievement and organizational effectiveness, the governance leadership team creates and sustains healthy community relations; models professional relationships; and creates a culture of mutual respect for effective collaboration and engagement of internal and external stakeholders.	
Standards	**Elements**
A. The governance leadership team develops a process for creating a unified culture where input is sought, heard, and valued.	1. The governance leadership team actions and decisions which impact board and community culture are aligned to the school system's strategic improvement plan supporting student achievement. 2. The interactions of the governance leadership team with the community focuses on creating a culture in which ideas are sought, heard and valued; and based on collaborative review of research, data and continuous improvement.
B. The board develops policies to ensure effective communication and engagement of all stakeholders' which support the strategic improvement plan, desired culture and continuous improvement of the school system.	1. The governance leadership team develops and supports implementation of a communications plan aligned with the school system's strategic improvement plan. 2. The governance leadership team formally and informally communicates to stakeholders, its strategic improvement plan, desired culture and improvement needs, and student performance expectations progress, targets, and results. 3. The governance leadership team and individual members' communication demonstrates transparency of intentions, actions, decisions, successes, progress statuses, benchmarks and barriers to achievement of goals and performance targets. 4. The governance leadership team will implement a communication plan consistent with Domain VIII – Ethics.

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C. The board, in collaboration with the superintendent, ensures processes that develop, communicate and maintain procedures for communications by stakeholders which result in resolution of issues and concerns supporting the strategic improvement plan, desired culture and continuous improvement of the school system.	1. The governance leadership team develops a written communication plan, which will be easy for governance team members and stakeholders to interpret, and widely communicated to stakeholders. 2. The governance leadership team members follow the approved written communication plan for receiving and responding to stakeholder communication (i.e. Chain of Command process). 3. The management of all communications of the governance leadership team promotes shared accountability and collaborative action in support of the strategic improvement plan, desired culture and continuous improvement of the school system. 4. The board establishes a process for monitoring and reporting the school system's performance in analyzing, addressing, and resolving issues and concerns raised by stakeholders.

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Appendix F11: Local Board of Education Ethics Standards

Domain IV: Policy Development	
Domain Description: The board adopts, revises, and follows written policies in accordance with laws and state board rules that include but are not limited to those that support improved student achievement, fiduciary responsibility, organizational effectiveness, and continuous organizational improvement.	
Standards	**Elements**
A. The board of education adopts, revises, and follows written policies that are clear, up-to-date, and in compliance with the school system's strategic improvement plan, state constitution, state and federal laws and state board rules.	1. The governance leadership team emphasizes policy development that is aligned with the system strategic improvement plan and supports improved student achievement and organizational effectiveness. 2. The board, through a local board policy, adopts, revises, and follows effective procedures for: a. Policy development, adoption, revisions, and repeal b. Emergency adoption of policies c. Policy dissemination 3. The board solicits and receives recommendations from the superintendent on any proposed policies. 4. The board provides opportunities for public review on proposed policies before final board action is taken. 5. The board puts procedures in place for policies to be systematically reviewed. 6. The board holds the superintendent accountable for the consistent implementation of adopted policies.

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Appendix F11: Local Board of Education Ethics Standards

Domain V: Board Meetings	
Domain Description: In order to conduct official business for the purpose of improving student achievement and organizational effectiveness, the governance leadership team shall plan and conduct board meetings in accordance with Open Meetings Law and local board policy.	
Standards	**Elements**
A. The board announces and holds meetings in accordance within local board policy and the Open Meetings Law (O.C.G.A. §50-14-1).	1. The board adopts a policy defining the process for developing board meeting agendas, to include, but not limited to • how the agenda is prepared and by whom • a process to remove or place items on the agenda • a process to allow requests for additional information on agenda items a. procedures through which the public can provide information, ideas, or input on agenda items. ~~2.~~ Board of education meeting agendas consistently include components that demonstrate alignment with the system's strategic improvement plan 3. The superintendent posts board meeting agendas for public review. 4. The board of education uses a "consent agenda" procedure when appropriate. 5. The board of education conducts meetings in accordance with the meeting agenda, once approved, and departs from the agenda only under circumstances allowed under the Open Meetings Law (O.C.G.A. §50-14-1) and by a majority (simple majority, super majority, or unanimous vote) previously specified in local board policy. 6. The governance leadership team is trained in, and conducts meetings in a manner consistent with, parliamentary procedure. 7. The superintendent ensures accurate records are recorded and maintained as prescribed by the Open Records Act. The board of education plans and conducts business meetings in open and closed sessions in a manner consistent with the Open Meetings Law (O.C.G.A. §50-14-1).

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Appendix F11: Local Board of Education Ethics Standards

DOMAIN VI: Personnel	
Domain Description: The Board of Education employs, sets performance expectations for, and evaluates the work of the superintendent; sets personnel policies and approves or denies personnel actions recommended by the superintendent in order for him/her to manage the system workforce to improve student achievement and organizational effectiveness.	
Standards	**Elements**
A. The board of education employs a superintendent who acts as the Executive Officer of the school system.	1. The board's search and hiring processes result in selecting a superintendent with the verified knowledge, expertise, skills and prior performance history that predict successful performance in execution of Superintendent duties and responsibilities in alignment with the school system strategic improvement plan. 2. The board sets performance expectations for the superintendent through the adoption of a strategic improvement plan; the adoption of a current job description; the adoption of professional development and evaluation plan; and adherence to state law. 3. The board of education invests in the Superintendent professional development to ensure alignment to the school system strategic improvement plan, and current job description. 4. The board of education engages in leadership continuity planning to support sustainability of improvement. 5. Board decisions regarding termination of Superintendent/ employment are compliant with superintendent contract and state statutes. 6. The governance leadership team will develop policies consistent with Domain VIII – Ethics.
B. The board of education evaluates the professional performance of the superintendent.	1. The board annually evaluates the superintendent job performance as outlined in the evaluation plan. 2. The evaluation instrument and process are developed by the board in collaboration with the superintendent, based on clear, written measurable performance targets and indicators; and aligned with the school system's strategic goals. 3. The board receives training in the superintendent evaluation process, current evaluation instrument, and objectively follows that process for evaluation. 4. The superintendent's evaluation will be reflected in meeting agenda minutes, noting participating members; however, the results of the evaluation of the superintendent will remain confidential.

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C. The board adopts personnel policy that is implemented by the superintendent.	1. The board adopts personnel policies that are aligned with the school system's strategic improvement plan and organizational effectiveness and consistent with applicable statutes. 2. The board and individual board members do not engage in the implementation of personnel policy, including the employment, assignment, or dismissal of personnel, except to accept or reject the recommendations of the superintendent. 3. The board holds the superintendent accountable for assuring that all personnel in the school system are evaluated in accordance with the school system's mission, strategic improvement plan, school system personnel policies, and applicable statutes. 4. The board follows state statutes in matters of school system employee discipline. 5. The board makes personnel decisions consistent with Domain VIII – Ethics.

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Appendix F11: Local Board of Education Ethics Standards

DOMAIN VII: Financial Governance	
Domain Description: The board provides guidance to the superintendent and sets sound fiscal policy so that the school system is an effective steward of all resources to support student achievement and organizational effectiveness.	
Standards	**Elements**
A. The board of education upon recommendation of the superintendent adopts a budget that adheres to State law provisions and consistent with its strategic improvement plan.	1. The board provides guidance to the superintendent who develops and manages the budget in accordance to the school system's, strategic improvement plan, and adopted fiscal policies that assure improved student achievement and organization effectiveness. 2. The board conducts budgeting discussions with the superintendent and establishes specific budget parameters where deemed necessary or appropriate. 3. The governance leadership team seeks community and stakeholder input, review, and feedback on the budget. 4. The board approves, after careful consideration of sound business and fiscal practices, the school system's budget reflecting adopted mission and strategic goals within the strategic improvement plan.
B. The board of education adopts policy for sound fiscal management and monitors the implementation of the budget.	1. The board develops policies to ensure sound fiscal management, including but not limited to: balanced budget requirements, spending level authorizations and permissions, deficit spending restrictions, establishment of special funds, and reserve maintenance requirements. 2. The board holds the superintendent accountable for the implementation of the budget in a manner consistent with the strategic improvement plan and strategic goals of the school system. 3. The board establishes, through policy, the level of spending beyond the budget for which the superintendent must seek board approval. 4. The board monitors the school system's audits, monthly financial reports, and additional financial reports needed to make informed decisions and to ensure execution of the budget in a manner consistent with the, strategic improvement plan and strategic goals of the school system. 5. The board reviews and addresses annually audited financial records and audit findings, with a goal of proactively preventing audit exceptions. 6. The board addresses fiscal matters in a manner consistent with law, sound business practice, and ethical principles regarding conflicts of interest. 7. Board financial decisions and actions do not provide unfair financial or other opportunity advantages to any member of the governance leadership team, their family members, associates or individual constituents.

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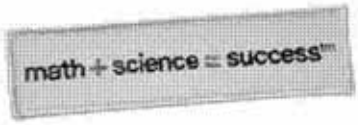
Appendix F11: Local Board of Education Ethics Standards

DOMAIN VIII: Ethics	
The governance leadership team will conduct themselves, collectively and individually, in an ethical and professional manner.	
Standards	**Elements**
A. The board of education will adopt a code of ethics policy and annually review ethical standards to enhance governance structure and organizational effectiveness.	1. The board adopts an ethics policy that includes as a minimum an ethical code of behavior based on the Georgia State Model of Code of Ethics. 2. The superintendent will follow the Professional Standards Commission code of ethics for educators.
B. The board and individual board members should practice the code of ethics behavior for effective governance.	1. Devote sufficient time, thought and study to the performance of the duties and responsibilities of a member of the board. 2. Become informed about current educational issues by individual study and through participation in programs providing needed education and training. 3. Not make disparaging remarks about another board member. 4. Participate in all training programs developed for board members by the board or the State Board of Education.
C. The board and individual board members will aviod conflicts of interest to ensure quality governance structure and organizational effectiveness.	1. Avoid conflicts of interest or the appearance of conflicts of interest. 2. Announce potential conflicts of interest before board action is taken. 3. Refrain from using the position of board member for personal or partisan gain or to benefit any person or entity over the interest the school district. 4. Comply with the conflicts of interest policy of the board.

DRAFT

STEM Appendix: Math + Science = Success

PRISM (Partnership for Reform in Science and Mathematics) Appendix



The PRISM Public Awareness Campaign seeks to correlate high P-12 science and mathematics performance to successful performance in college and beyond; influence student selection of challenging courses by positively altering their perceptions about science and mathematics; reinforce parental and guardian involvement to increase student interest science and mathematics; and encourage public support for science and mathematics teaching methodologies that assure enhanced student learning and achievement.

Campaign History: The Public Awareness Campaign began with conducting Market Research to understand the interest, motivation, and achievement in science and mathematics among Georgia students in late 2004 through spring 2005. The research audience included P-12 teachers and administrators, higher education faculty, community representatives, school-aged children and parents of school-aged children. Findings from this research were used to develop a public relations strategy that commenced fall 2005 as a component of the communications plan to launch a broader advertising campaign early 2006. The Campaign continues its broad advertising campaign coupled with a community outreach component, Math & Science Family-oriented events and After School Programs.

PRISM Public Awareness Campaign first-ever public outreach/awareness program funded by NSF

National Science Foundation program officers and council members repeatedly commend the work of the PRISM Public Awareness Campaign, citing the Campaign's efforts to encourage parental and community support for student achievement. After only two years of the Campaign's initial launch, NSF referenced the PRISM Public Awareness Campaign in their 2008 Budget Request to Congress, as one of the highlighted efforts introduced through the MSP program.

FY 2008 NSF Budget Request to Congress

► **Parents Have the Greatest Influence on School Performance:** The Partnership for Reform in Science and Mathematics (PRISM), an NSF-funded Math and Science Partnership (MSP) at the University System of Georgia, bridges higher education and K-12 communities as well as parents interested in engaging children to pursue careers in mathematics, the sciences or engineering. After a year of research, PRISM adopted the equation "math + science = success" as its central theme for the first wave of a public awareness campaign early in 2006. To set the stage for the campaign, research instruments were developed by Maguire Associates, a leading educational research firm, in collaboration with the PRISM leadership team of science and mathematics educators from K-12 and higher education. In an important finding from Phase I of the baseline research, researchers found that high school students surveyed in four diverse regions of Georgia overwhelmingly identified their parents – not their teachers, coaches, religious leaders, peers, or celebrities – as exerting the greatest influence on how they do in school. Surprisingly, parents surveyed in the same baseline research underestimated the significance of their influence. An important aspect of the public relations campaign is its coherence with PRISM's other strategies for advancing high-quality mathematics and science education. (DUE/MSP)

(b)(6)

Bus shelter signage used in "math + science = success" public awareness campaign. *Credit: Mindpower Incorporated, Atlanta, GA.*

STEM Appendix: Math + Science = Success

PRISM (Partnership for Reform in Science and Mathematics) Appendix

National Science Board recommends Public Awareness Campaigns be included in all STEM related intiatives:

In a January 2009 letter to the president-elect and his administration, the National Science Board recommended six "Essential Components of an Effective STEM Education System". The first recommendation urged, "A motivated public, students, and their parents". In this section of the letter, the Board explained that , "The President and his Administration should emphasize to the general public, early and often, the importance of a solid education, especially in STEM, for all of our students. The need is such that it calls for a public awareness campaign similar in scale to those in the past on public health issues (e.g., the food pyramid, physical fitness, anti-smoking, etc.)."

The letter then outlined, that "it is particularly important that parents understand this need. The President should issue a call to arms to all parents to use their influence at all levels—home, school and community—to bring about the changes we recommend." Finally, the letter admonished, "Coalitions among parents, government, business and industry, private and corporate foundations, public figures, scientists and engineers, the media, and other stakeholders should be used to draw attention to the need and collectively develop locally relevant strategies to foster high quality STEM education for all students."

These recommendations are directly aligned to the PRISM Public Awareness Campaign's initial market research findings, goals, objectives as well as strategies being employed to influence student performance and achievement in STEM education.

Market Research recommendations on Campaign focus and messages

Key Messages of the Public Awareness Campaign (for students):

- Math and science are part of everyday life.
- It is not okay to be poor at math and science. Being undereducated in math or science is a major handicap in today's world.
- Kids who are good at math and science can also be cool.
- Math and science are *not* "too hard for you to learn," but they do take practice and sometimes you may need extra help.
- It's important that you get help if you get confused or fall behind in math or science.
- Math and science are important to career success.
- Even kids who aren't planning to go to college have to know math and science to get and keep good jobs.
- Even if you are not college bound, you still need math and science to function in today's society and to be competitive in the job market.
- Math and science teach you how to ask good questions and be a good problem solver.

Key Messages of the Public Awareness Campaign (for parents to convey to their children):

- Math and science are part of everyday life.
- Math and science subjects are much more important to career success today than they were a generation ago.
- Even if your child isn't college bound s/he still needs math and science to function in today's society and to be competitive in the job market.
- Even kids who aren't planning to go to college, for example technical track students or those who will go on to work in agriculture, have to know math and science to get and keep good jobs.
- People with a college education, on average, earn $500,000 more during their working life than people without a degree.
- It is not OK to be poor at math and science. Being undereducated in math or science is a major handicap in today's world.
- Kids who are good at it can also be cool.
- People who are good at math and science have interesting and rewarding careers.
- Parents are key influencers in their children's lives. A key to how well kids do learning math and science is how much their parents support their doing so (even if the parents don't have a strong background in math and science themselves).

STEM Appendix: Math + Science = Success

PRISM (Partnership for Reform in Science and Mathematics) Appendix

Collateral engagement items used in the PRISM Public Awareness Campaign

Student posters

Parent pocket guides

School Level parent guides

Public Service Announcements

Billboards

Bus Wraps

Mass Transit ads (internal)

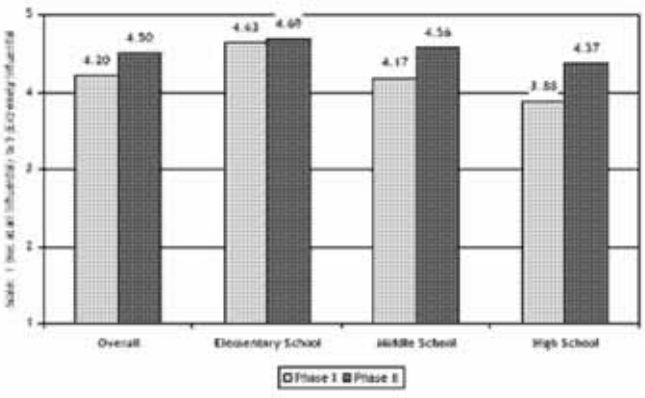
Bus Shelter promotions

as well as Rulers, Magnets, Campaign Website and other awareness materials.

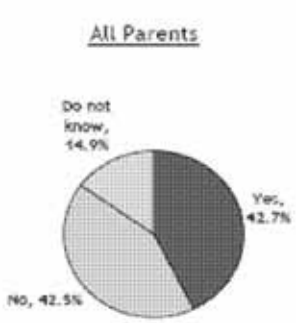
Market research findings suggest parents exposed to the PAC have significant Campaign recall and showed evidence of understanding the importance of their involvement related to student - STEM education

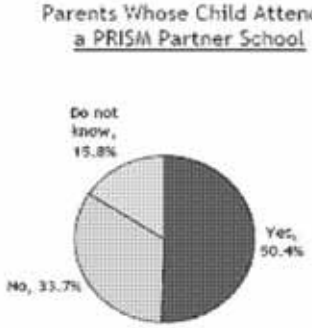
Within six months of the Campaign launch, Market Researchers returned to conduct Phase II of their work, concluding that all parents showed a slight increase in their belief that they have greater influence on their child's school achievement at all grade levels (please note, there is a spike this perception among parents with children in high school).

Parents' Perception of Their Influence on Child's Achievement in School



Seen or Heard "*Math + Science = Success*" Within Past Year





Q. How influential do you think you are (and your spouse/partner if applicable) in your child's interest and achievement in school?

State of Georgia: Race to the Top Application Materials

Submitted: June 1, 2010

Attention: CFDA Number 84.395A

Contact Information:

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The following materials have been submitted on this disc:

Section	Location
Section III. Race to the Top Application Assurances – Signatures	Included separately (original, copy, and on CD)
Section III. Race to the Top Application Assurances - State Attorney General Certification	Included separately (original, copy, and on CD)
Section IV. Accountability, Transparency, Reporting, and Other Assurances and Certifications	Included separately (original, copy, and on CD)
Section VI. Selection Criteria: Progress and Plans in the Four Education Reform Areas	Pages 4-195 of this document
Section VII. Competitive Preference Priority and Invitational Priorities	Pages 196-212 of this document
Section VIII. Budget	Included in the Appendix (separate file on CD) as *Appendix A30: Budget Narrative.* *Appendix A30* also includes the Indirect Cost page (p. 64 of the RFP Notice) (double check page number)
Section IX. Participating LEA Memorandum of Understanding	Included in the Appendix (separate file on CD) as *Appendix A16: Participating LEA Model MOU and Exhibit 1* Note: All MOUs signed by participating LEAs were identical, therefore we only include one example
Section XVIII. Appendix	Included separately (on CD) Contains full table of contents and all appendices A1-A40, B1-B6, C1-C2, D1-D19, E1-E5, F1-F10, STEM Appendix