RACE TO THE TOP

Massachusetts Report

Year 1: School Year 2010–2011

U.S. Department of Education
Washington, DC 20202

January 10, 2012

Race to the Top overview

The American Recovery and Reinvestment Act of 2009 (ARRA) provided $4.35 billion for the Race to the Top Fund, of which approximately $4 billion was used to fund comprehensive statewide reform grants under the Race to the Top program.[1] In 2010, the U.S. Department of Education (Department) awarded Race to the Top grants to 11 States and the District of Columbia. The Race to the Top program is a competitive four-year grant program designed to encourage and reward States that are creating the conditions for education innovation and reform; achieving significant improvement in student outcomes, including making substantial gains in student achievement; closing achievement gaps; improving high school graduation rates; and ensuring students are prepared for success in college and careers.

Since education is a complex system, sustained and lasting instructional improvement in classrooms, schools, local educational agencies (LEAs), and States will not be achieved through piecemeal change. Instead, the Race to the Top program requires that States and LEAs take into account their local context to design and implement a comprehensive approach to innovation and reform that meets the needs of their educators, students, and families.

The Race to the Top program is built on the framework of comprehensive reform in four core education reform areas:

- Adopting rigorous standards and assessments that prepare students for success in college and the workplace;

- Recruiting, developing, retaining, and rewarding effective teachers and principals;

- Building data systems that measure student success and inform teachers and principals how they can improve their practices; and

- Turning around the lowest-performing schools.

Race to the Top program review

As part of the Department's commitment to supporting States as they implement ambitious reform agendas, the Department established the Implementation and Support Unit (ISU) in the Office of the Deputy Secretary to administer, among others, the Race to the Top program. The goal of the ISU is to provide assistance to States as they implement unprecedented and comprehensive reforms to improve student outcomes. Consistent with this goal, the Department has developed a Race to the Top program review process that not only addresses the Department's responsibilities for fiscal and programmatic oversight, but is designed to identify areas in which Race to the Top grantees need assistance and support to meet their goals. Specifically, the ISU will work with Race to the Top grantees to differentiate support based on individual State needs, and help States work with each other and with experts to achieve and sustain educational reforms that improve student outcomes.

Grantees are accountable for the implementation of their approved Race to the Top plans, and the information and data gathered throughout the program review help to inform the Department's management and support of the Race to the Top States, as well as provide appropriate and timely updates to the public on their progress. In the event that adjustments are required to an approved plan, the grantee must submit a formal amendment request to the Department for consideration. States may submit for Department approval amendment requests to a plan and budget provided that such changes do not significantly affect the scope or objectives of the approved plans. In the event that the Department determines that a grantee is not meeting its goals, activities, timelines, budget, or annual targets or is not fulfilling other applicable requirements, the Department will take appropriate enforcement action(s), consistent with 34 CFR section 80.43 in the Education Department General Administrative Regulations (EDGAR).[2]

State-specific summary report

The Department uses the information gathered during the review process (e.g., through monthly calls, on-site reviews, and Annual Performance Reports (APRs)) to draft State-specific Race to the Top reports.[3] The State-specific summary report serves as an assessment of a State's Year 1 Race to the Top implementation, highlighting successes and accomplishments, identifying challenges, and providing lessons learned from implementation to date.

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[1] The remaining funds were awarded under the Race to the Top Assessment program. More information about the Race to the Top Assessment program is available at www.ed.gov/programs/racetothetop-assessment.

[2] More information about the ISU's program review process, State APR data, and State Scopes of Work can be found at http://www2.ed.gov/programs/racetothetop/index.html.

[3] Additional State-specific data on progress against annual performance measures and goals reported in the Year 1 APRs can be found on the Race to the Top Data Display at www.rtt-apr.us.

Massachusetts' education reform agenda

Since Massachusetts' Education Reform Act in 1993, the State has focused on accelerating student achievement gains. In 2011, Massachusetts' fourth and eighth graders led the nation in reading and mathematics performance on the National Assessment of Educational Progress (NAEP). Despite having high overall levels of student achievement, Massachusetts recognizes that not every student in the State receives a world-class education. Through Race to the Top, Massachusetts is implementing a comprehensive reform plan to ensure that every student is prepared for success in college and careers.

In August 2010, the Department awarded Massachusetts a $250 million Race to the Top grant to pursue its goals for student performance and closing student achievement gaps. The State's four objectives for the grant are as follows:

1. *Great Teachers and Leaders:* Attract, develop, and retain an effective, academically capable, diverse and culturally proficient educator workforce to ensure every student is taught by a great teacher and every school and district is led by a great leader;

2. *Curricular and Instructional Resources:* Provide curricular and instructional resources to provide every educator with the tools necessary to promote and support student achievement;

3. *Concentrated Support in Low-Performing Schools:* Concentrate great instruction and additional supports for educators, students, and families in the lowest-performing schools and their districts to create the conditions needed for improved student achievement; and

4. *College and Career Readiness:* Increase dramatically the number of students who graduate from high school ready for college and career.

Several of the State's programs target increased achievement in science, technology, engineering, and mathematics (STEM).

## Local educational agency participation

Of Massachusetts' 393 local educational agencies (LEAs), 258 are participating in the State's Race to the Top plan. According to the State's September 2011 APR, these LEAs serve 70.5 percent of the State's students and over 86 percent of its students in poverty.

LEAs Participating in Massachusetts' Race to the Top Plan

135   258
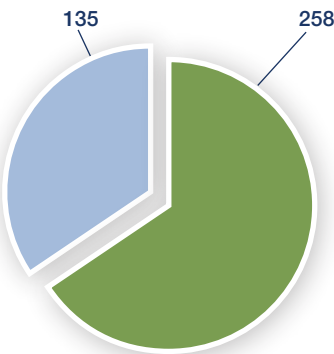
■ Participating LEAs (#) as of June 30, 2011

■ Other LEAs

K-12 Students in LEAs Participating in Massachusetts' Race to the Top Plan

273,336   653,604
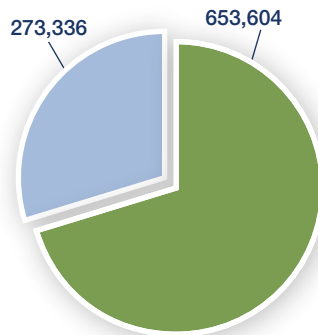
■ K-12 students (#) in participating LEAs

■ K-12 students (#) in other LEAs

Students in Poverty in LEAs Participating in Massachusetts' Race to the Top Plan

44,248   274,750
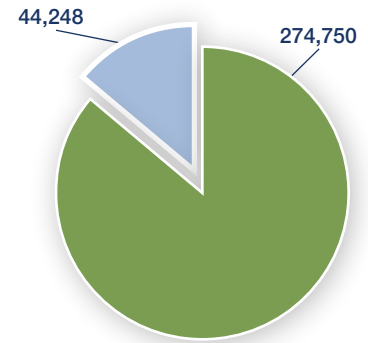
■ Students in poverty (#) in participating LEAs

■ Students in poverty (#) in other LEAs

State Year 1 summary

Accomplishments

Massachusetts' Year 1 accomplishments include: capacity building within its Department of Elementary and Secondary Education (ESE) to support the effective implementation of its Race to the Top reform projects, efforts to promote the transition to new college- and career-ready standards, development of a new educator evaluation framework, the initiation of school intervention models, and the provision of support to educators.

Building capacity for reform. The State established the Delivery Unit within ESE's Office of Planning and Research (OPR) to support implementation of Race to the Top, filled most of its key positions, and instituted methods of evaluating and monitoring progress. Critical to these efforts is its use of the Deliverology approach to strategic planning and implementation (see *"What Is Deliverology in Massachusetts?"* sidebar), which, according to the State, enables it to plan for and manage projects efficiently, focus on quality implementation, and identify potential problems early.

Promoting rigorous college- and career-ready standards. The Massachusetts Board of Elementary and Secondary Education (BESE) approved the Massachusetts Curriculum Framework for English Language Arts and Literacy and the Massachusetts Curriculum Framework for Mathematics in December 2010. To support the transition to the new standards, the State created model curriculum units and aligned standards documents to the Common Core State Standards (CCSS).

Instituting a new evaluation framework. In June 2011, Massachusetts passed new regulations for educator evaluation. The State provided its LEAs with the flexibility to develop their own evaluation systems, provided those systems meet the requirements of the regulations. According to Massachusetts, in Year 1, the State also helped prepare 46 LEAs to implement the new educator evaluation framework in Year 2.

Turning around low-performing schools. Thirty-five low-performing schools in nine LEAs initiated school intervention models in SY 2010–2011. Through the models and additional State supports, Massachusetts seeks to holistically address student achievement, including out-of-school factors.

Supporting educators. In Year 1, Massachusetts aligned its professional development efforts with Race to the Top and implemented programs that served thousands of educators across the State. One such program focused on how educators can prepare students for Advanced Placement (AP) coursework.

Challenges

In the process of strengthening its data systems, Massachusetts faced difficulty hiring for some positions due to the short-term nature of the work and the need for highly specialized staff. It has addressed these challenges by making use of temporary employees and vendor support. The State also faced delays in the implementation of its new grants management systems due to a slower than expected pace of development. However, the State has proceeded with implementation of the grant using its current system.

Massachusetts was unable to hire a professional development coordinator until October 2011. This delay did not prevent the State from implementing priority initiatives related to ensuring high-quality professional development that aligns with the CCSS. However, the State believes that its professional development efforts will be even more successful now that the position has been filled.

Strategies for moving forward

Massachusetts is building capacity to make its implementation approach even more effective and is working to fill its last few positions. The State plans to continue identifying innovative ways to support LEAs in their planning and implementation of Race to the Top projects, which the State has identified as a priority, given the number and diversity of participating LEAs. Across the core education reform areas, Massachusetts plans to continue to seek stakeholder and expert feedback and make adjustments based on its findings.

Building capacity to support LEAs

For Massachusetts, Deliverology is a systematic approach to implementation that emphasizes the use of real-time data, focused analysis and reports, and strong leadership involvement to drive implementation. The State is using Deliverology tools, processes, and implementation framework to assist in:

- setting clear goals;

- developing a delivery chain by which services reach more than 300 LEAs, 1,900 schools, and 80,000 educators;

- identifying trajectories that link planned interventions and expected outcomes over time;

- identifying data for measuring progress that provide real-time performance information, allow for mid-course corrections, and create meaningful consequences for units that are on or off track;

- creating routines for providing feedback that help leaders uncover situations that require targeted correction or intervention; and

- mining best practice lessons from analogous situations, States, and systems that have achieved success.

Much of Year 1 was devoted to building the capacity to implement the Deliverology approach, but the State has already used the approach to identify and act on potential problems earlier than it would have otherwise. For example, the State identified that its efforts to develop tiered behavioral and academic student supports were not initially successful and had encountered problems coordinating across divisions. As a result of Deliverology, the OPR intervened quickly and made improvements to the process.

Performance management

The State's OPR, located in ESE, houses key Race to the Top personnel and functions, including the Delivery Unit and the Race to the Top Implementation Team.

Massachusetts is using the Deliverology method to ensure high-quality, timely implementation of its Race to the Top programs. This strategy centers around the Delivery Unit, which tracks the progress of different projects based on tangible benchmarks. Race to the Top project managers and other staff create detailed project plans that include implementation benchmarks and interim outcome measures. Each project is then regularly evaluated based on its progress toward certain set goals and benchmarks. According to the State, this process allows project managers to quickly and systematically address issues as they arise.

In order to evaluate the effectiveness of its Race to the Top reforms, Massachusetts is developing and executing major evaluations for six reform areas: Teaching and Learning System, college and career readiness, educator evaluation and human resource systems, professional development, Wraparound Zones, and school intervention support. As of September 2011, it had executed evaluation contracts for college and career readiness and for school intervention support and had nearly completed the bidding process for an evaluation of Wraparound Zones. Two contracts, one for a professional development evaluation and the other for the Teaching and Learning System, are in development. In the case of the Teaching and Learning System, the State is exploring collaboration with other States, and therefore will continue to define the details of the evaluation in Year 2. The State prioritized evaluation contracts that concern district-based work and plans to complete contracts for all major evaluation vendors in Year 2.

LEA implementation and accountability

Before approving LEA Scopes of Work (known in Massachusetts as LEA Requests for Proposals (RFPs)), the State required that the proposed Scope of Work include a program narrative, performance measures, a governance statement, a budget workbook for Year 1, and anticipated activities in Years 2 through 4. At the start of Year 2, the State initiated an LEA RFP process for Years 2 through 4 that further defined activities and budget allocations for those years. In terms of fiscal accountability, the State's Audit and Compliance Unit coordinates most of ESE's financial compliance reviews. In addition, Massachusetts uses its ARRA reporting tool to collect quarterly fiscal data from subrecipients.

Tracking LEA progress toward meeting performance measure targets is the key to Massachusetts' ongoing monitoring and support. In Year 1, LEAs reported on self-selected performance measures, but in Years 2 through 4, they will report on State-defined measures in addition to some LEA-selected measures. ESE uses these data to assess LEA progress on various reform measures and provides targeted assistance as needed. Also, the State will produce internal-use reports that identify whether programs are on target and will offer workshops to address implementation issues.

The State also gathers additional detailed and qualitative information on its Level 3 and Level 4 districts, which have schools that are among the lowest-performing 20 percent in the State.[4] Its review process for these LEAs makes use of district review reports, the district's school intervention plan, interviews with school personnel and leaders, focus groups with teachers and parents, extensive classroom observations and observations of meetings, and student data. These in-depth reviews help the State identify progress and areas in which more support is needed.

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[4] According to the State, Level 3 and Level 4 are defined as follows: Level 3 – Districts with one or more schools among the lowest-performing 20 percent based on quantitative indicators. Level 4 – Districts identified by quantitative and qualitative indicators through a district review; Districts with one or more schools among the lowest-performing and least improving 2 percent based on quantitative indicators.

Stakeholder engagement

Massachusetts instituted a wide array of initiatives to elicit stakeholder input regarding Race to the Top reforms. The State convened bodies of stakeholders to provide a forum for critical evaluation and input. The Implementation Advisory Group, composed of superintendents, union leaders, and school committee representatives, meets regularly to provide feedback on program development and communications work. The External Advisory Group, which is made up of State, national, and international leaders in education policy, has met to advise the State on educator evaluation policies.

After the Year 1 LEA Scope of Work submission, the State issued a survey that solicited feedback regarding the effectiveness of the process, in an effort to strengthen implementation guidance and support in the future. Another survey gathered data on educator attitudes toward different features of LEA technology supports for curriculum, instruction, and assessment. In response to LEA feedback, the State included training on its Planning and Implementation Framework in information sessions on its LEA Scope of Work preparation process for Year 2.

In addition to these capacity-related efforts, Massachusetts implemented numerous other support programs to engage educators with the State's Race to the Top plan. These include its modules and trainings on the CCSS (see *Standards and Assessments* section), modules to support the use of data systems (see *Data Systems to Support Instruction* section), and extensive professional development efforts aimed at improving educator effectiveness (see *Great Teachers and Leaders* section).

Challenges and lessons learned

To facilitate LEA reporting on implementation benchmarks, Massachusetts is developing new systems that will be more efficient than existing methods of collecting data. The State plans to add a module to its grants management system that will allow LEAs to report on performance measures, which will help State and LEA staff track implementation and compare progress statewide. However, the rollout of this module was slower than expected and did not take place on the timeframe originally proposed. The system is still in its testing phase, but the State hopes to begin to use it in 2012. The State will use its current grants management system to collect LEA performance measures in winter 2012.

Given the importance of LEA capacity to implement its Race to the Top activities and programs, the State has worked diligently to differentiate LEA support and accountability to ensure high-quality implementation across the State. In Year 1, Massachusetts focused on ways it could better support LEAs. For example, the State provided training on its Planning and Implementation Framework. The State continues to evaluate its efforts and believes that identifying new ways to provide support to LEAs will be important in the coming years.

Massachusetts actively monitors its oversight and implementation processes and adjusted several aspects of its Race to the Top plan to ensure appropriate support for implementation. For example, the State identified a need for an additional policy analyst to assist with performance benchmarking, monitoring, and accountability for progress. The State freed up funds for this position by using State resources to cover costs in another area.

Looking ahead to Year 2

Massachusetts will continue its capacity-building efforts in Year 2. At the end of Year 1, nearly all key roles in OPR were filled, and the State intends to fill the outstanding positions at the start of Year 2.

In Year 2, Massachusetts will continue to design and implement evaluations for all of its major projects. The State divided its activities into six major areas for evaluation.

The State will continue to communicate extensively with its stakeholders in Year 2. It has scheduled several stakeholder meetings to gather feedback on its programs and will continue to assess and improve its strategies for communicating and coordinating with LEAs.

Student outcomes data

Student Proficiency, NAEP Reading 2011

Average scale score

	Grade 4	Grade 8
Baseline: 2008—2009	233.7	273.6
Actual: 2010—2011	236.8	275.4
Target from Massachusetts' approved plan: 2012—2013	248	277

- Baseline: 2008—2009
- Actual: 2010—2011
- Target from Massachusetts' approved plan: 2012—2013
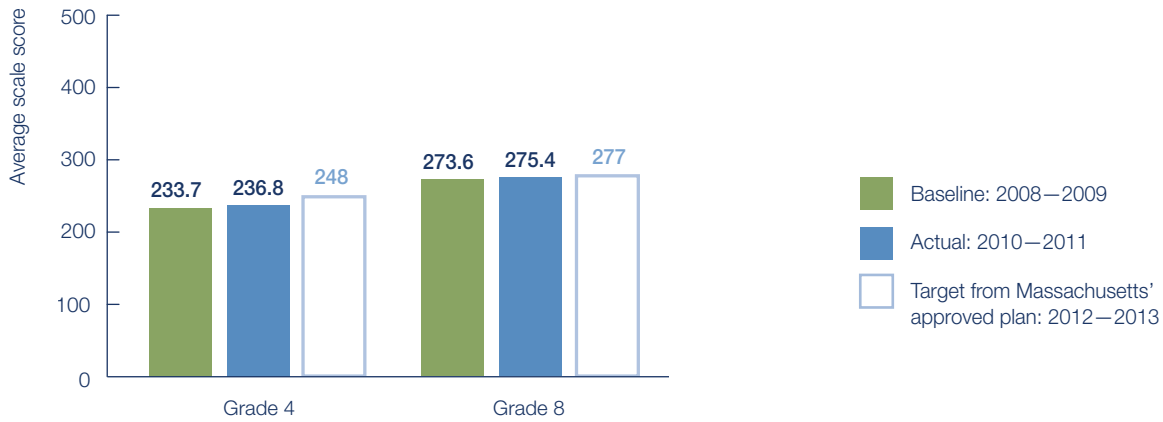
Massachusetts' grade 4 reading score was significantly higher (p < .05) in 2011 than in 2009.
Massachusetts' grade 8 reading score was not significantly different in 2011 than in 2009.

Student Proficiency, NAEP Mathematics 2011

Average scale score

	Grade 4	Grade 8
Baseline: 2008—2009	252.3	298.9
Actual: 2010—2011	253.4	298.5
Target from Massachusetts' approved plan: 2012—2013	265	312

- Baseline: 2008—2009
- Actual: 2010—2011
- Target from Massachusetts' approved plan: 2012—2013
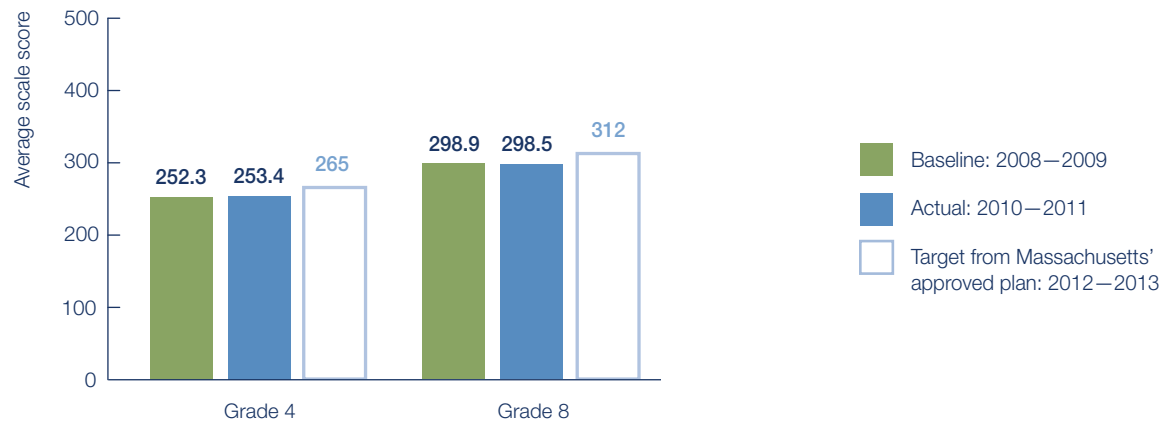
Massachusetts' grade 4 mathematics score was not significantly different in 2011 than in 2009.
Massachusetts' grade 8 mathematics score was not significantly different in 2011 than in 2009.

State Success Factors
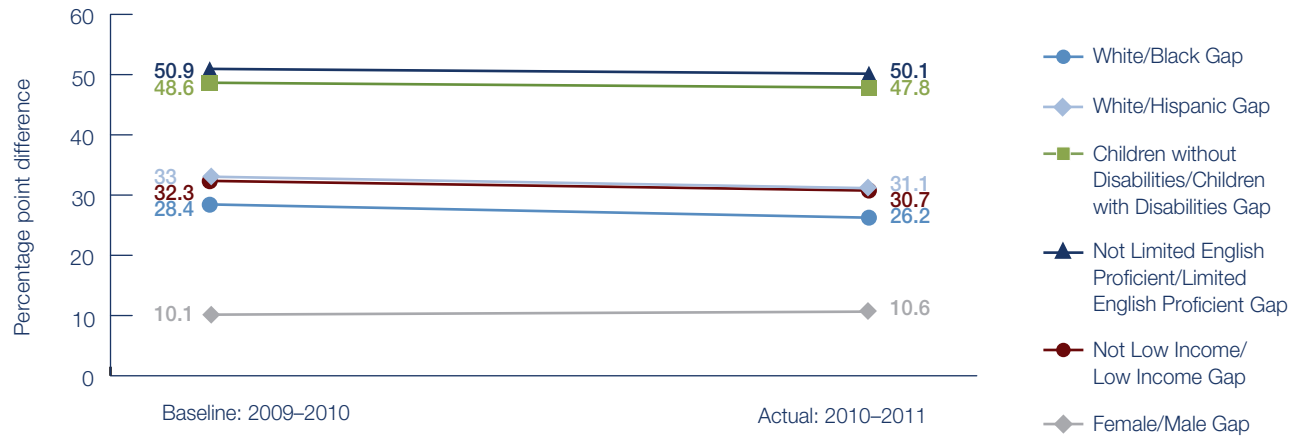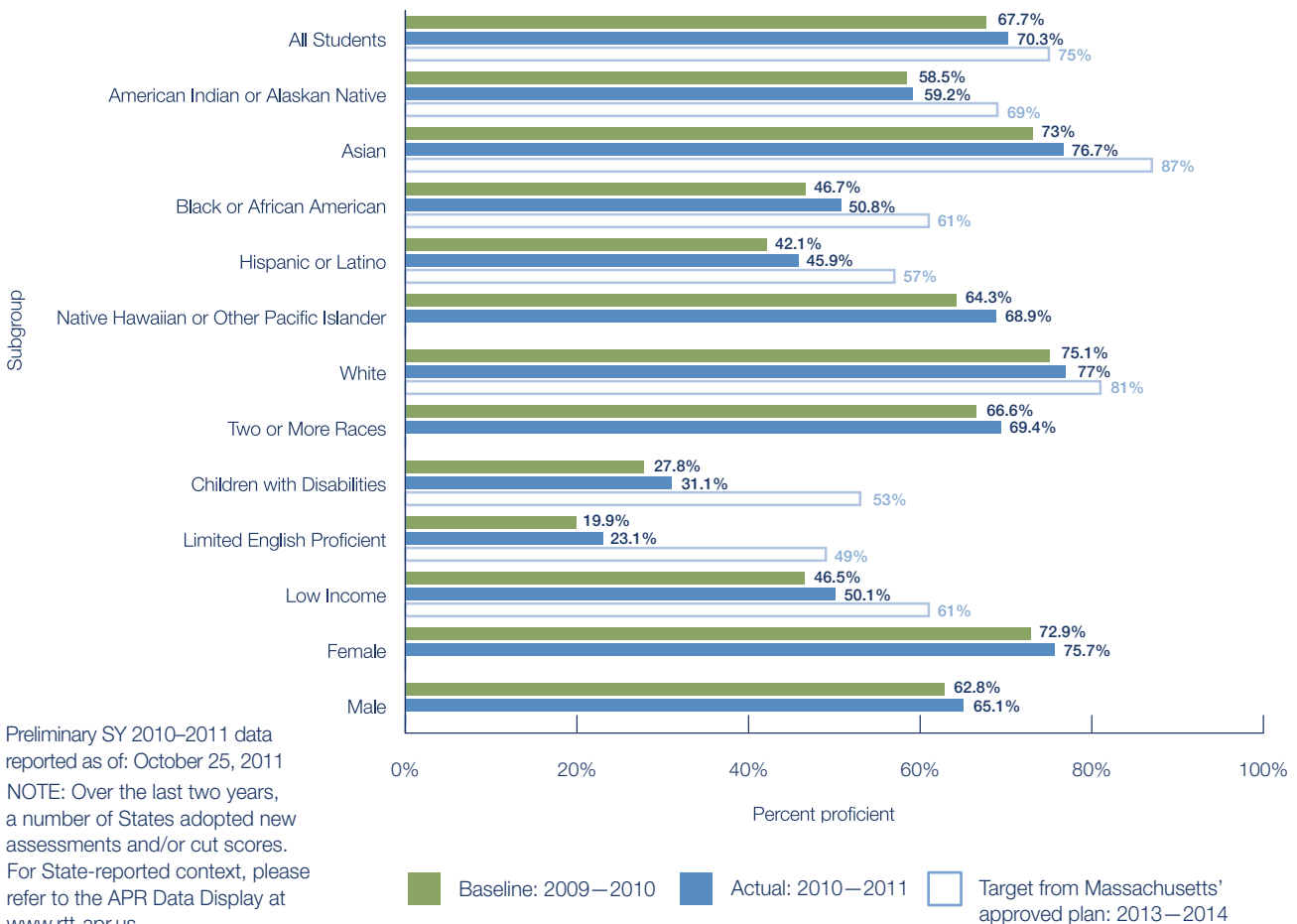
Achievement Gap on Massachusetts' ELA Assessment SY 2010–2011

Percentage point difference (y-axis): 0 to 60

Gap	Baseline: 2009–2010	Actual: 2010–2011
White/Black Gap	28.4	26.2
White/Hispanic Gap	33	31.1
Children without Disabilities/Children with Disabilities Gap	48.6	47.8
Not Limited English Proficient/Limited English Proficient Gap	50.9	50.1
Not Low Income/Low Income Gap	32.3	30.7
Female/Male Gap	10.1	10.6

Legend:
- White/Black Gap
- White/Hispanic Gap
- Children without Disabilities/Children with Disabilities Gap
- Not Limited English Proficient/Limited English Proficient Gap
- Not Low Income/Low Income Gap
- Female/Male Gap

Preliminary SY 2010–2011 data reported as of: October 25, 2011

NOTE: Over the last two years, a number of States adopted new assessments and/or cut scores. For State-reported context, please refer to the APR Data Display at www.rtt-apr.us.

Overall Proficiency on Massachusetts' ELA Assessment SY 2010–2011

Subgroup	Baseline: 2009—2010	Actual: 2010—2011	Target from Massachusetts' approved plan: 2013—2014
All Students	67.7%	70.3%	75%
American Indian or Alaskan Native	58.5%	59.2%	69%
Asian	73%	76.7%	87%
Black or African American	46.7%	50.8%	61%
Hispanic or Latino	42.1%	45.9%	57%
Native Hawaiian or Other Pacific Islander	64.3%	68.9%	
White	75.1%	77%	81%
Two or More Races	66.6%	69.4%	
Children with Disabilities	27.8%	31.1%	53%
Limited English Proficient	19.9%	23.1%	49%
Low Income	46.5%	50.1%	61%
Female	72.9%	75.7%	
Male	62.8%	65.1%	

Percent proficient (x-axis): 0% to 100%

Preliminary SY 2010–2011 data reported as of: October 25, 2011

NOTE: Over the last two years, a number of States adopted new assessments and/or cut scores. For State-reported context, please refer to the APR Data Display at www.rtt-apr.us.
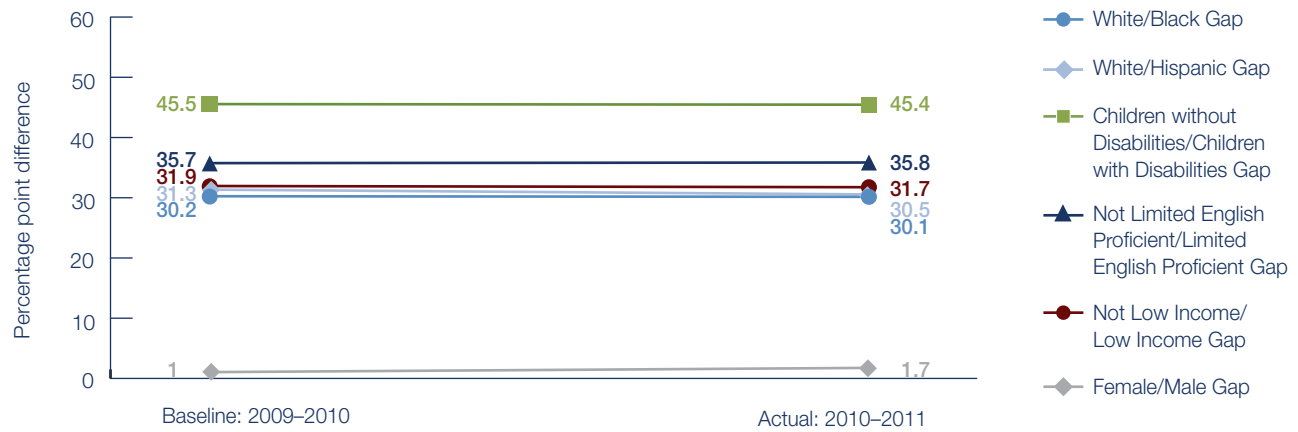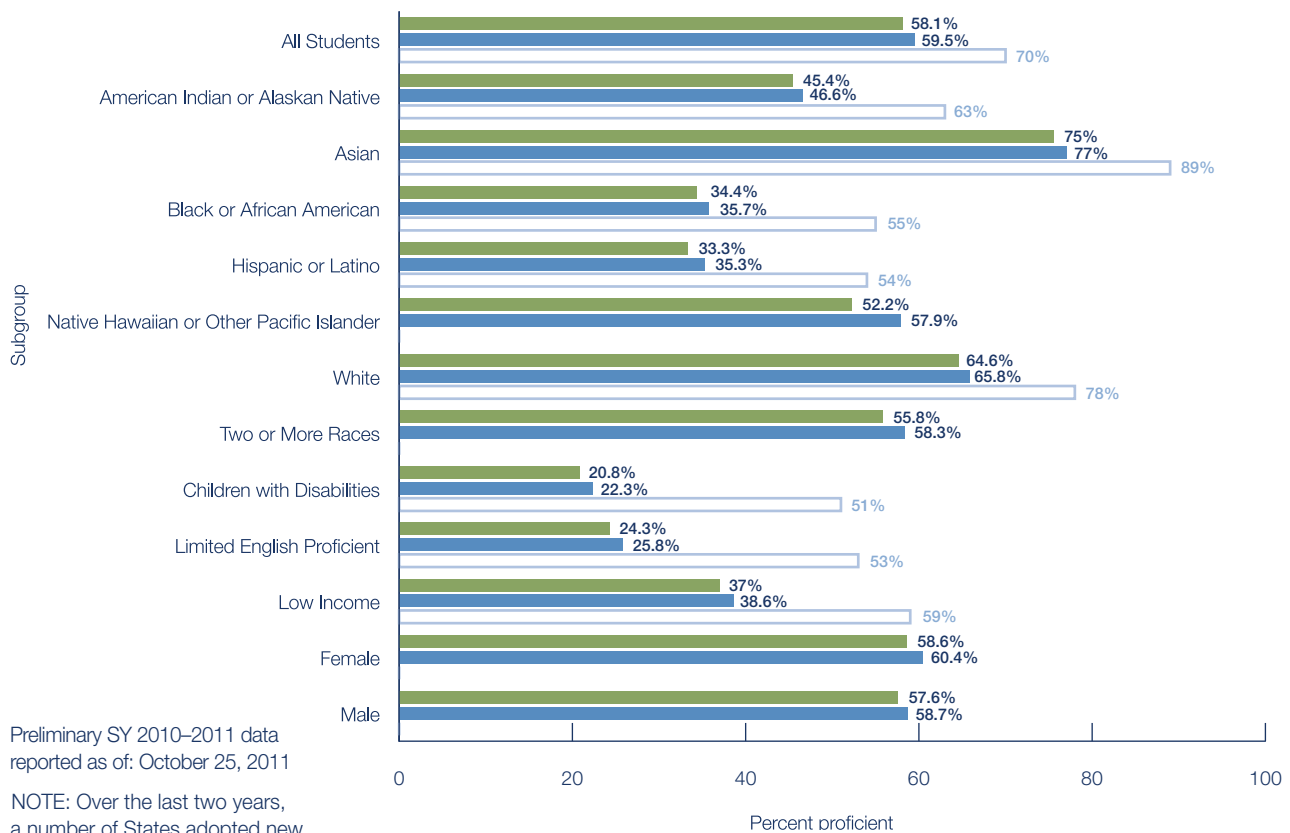
Legend:
- Baseline: 2009—2010
- Actual: 2010—2011
- Target from Massachusetts' approved plan: 2013—2014

State Success Factors

Achievement Gap on Massachusetts' Mathematics Assessment SY 2010–2011

Legend:
- ● White/Black Gap
- ◆ White/Hispanic Gap
- ■ Children without Disabilities/Children with Disabilities Gap
- ▲ Not Limited English Proficient/Limited English Proficient Gap
- ● Not Low Income/Low Income Gap
- ◆ Female/Male Gap

Baseline: 2009–2010 values: 45.5, 35.7, 31.9, 31.3, 30.2, 1
Actual: 2010–2011 values: 45.4, 35.8, 31.7, 30.5, 30.1, 1.7

Y-axis: Percentage point difference (0 to 60)

Preliminary SY 2010–2011 data reported as of: October 25, 2011

NOTE: Over the last two years, a number of States adopted new assessments and/or cut scores. For State-reported context, please refer to the APR Data Display at www.rtt-apr.us.

Overall Proficiency on Massachusetts' Mathematics Assessment SY 2010–2011

Subgroup	Baseline: 2009–2010	Actual: 2010–2011	Target: 2013–2014
All Students	58.1%	59.5%	70%
American Indian or Alaskan Native	45.4%	46.6%	63%
Asian	75%	77%	89%
Black or African American	34.4%	35.7%	55%
Hispanic or Latino	33.3%	35.3%	54%
Native Hawaiian or Other Pacific Islander	52.2%	57.9%	
White	64.6%	65.8%	78%
Two or More Races	55.8%	58.3%	
Children with Disabilities	20.8%	22.3%	51%
Limited English Proficient	24.3%	25.8%	53%
Low Income	37%	38.6%	59%
Female	58.6%	60.4%	
Male	57.6%	58.7%	

X-axis: Percent proficient (0 to 100)

Preliminary SY 2010–2011 data reported as of: October 25, 2011

NOTE: Over the last two years, a number of States adopted new assessments and/or cut scores. For State-reported context, please refer to the APR Data Display at www.rtt-apr.us.

Legend:
- Baseline: 2009—2010
- Actual: 2010—2011
- Target from Massachusetts' approved plan: 2013—2014

Implementing rigorous college- and career-ready standards and assessments that prepare students for success in college and career is an integral aspect of education reform in all Race to the Top States.

Adoption of college- and career-ready standards and high-quality assessments

The Massachusetts Board of Elementary and Secondary Education (BESE) unanimously voted to adopt the CCSS in English language arts (ELA) and mathematics in July 2010. Massachusetts joined the Partnership for Assessment of Readiness for College and Careers (PARCC) as a governing member. The State participates in multiple PARCC committees and has provided feedback that is used to inform work such as the assessment development procurement and assessment design.

Supporting the transition to college- and career-ready standards and high-quality assessments

After BESE adopted the CCSS, a curriculum team was convened to adapt the standards to Massachusetts' existing standards and to identify similarities and differences between the old and new standards. In December 2010, BESE approved the Massachusetts Curriculum Framework for English Language Arts and Literacy and the Massachusetts Curriculum Framework for Mathematics. The Frameworks include the CCSS, augmented with some State-specific standards, as permitted by the CCSS Initiative.[5] Overall, 28 percent of the State's standards documents had been aligned by September 2011, exceeding its goal of 22 percent. The State also created 40 model curriculum units, outpacing its goal of 25. The State plans to reach full implementation of the Frameworks in SY 2013–2014.

To design assessments aligned with the CCSS, Massachusetts became a governing member of PARCC. The State was represented at each leadership meeting, participated in other working groups, and hired a local PARCC coordinator. Representatives from ESE also participated in a Transition and Implementation Institute with other PARCC States. The State will start to implement the CCSS in classrooms in SY 2011–2012, the second of two transition years between the old and new standards. In SY 2012–2013, statewide assessments will begin to be based on Massachusetts' adoption of the CCSS.

The State is making a strong effort to boost academic standards in other ways as well. It is working to increase the number of students who enroll in and complete MassCore, the State's curriculum for college and career readiness. In its APR, the State reported that for SY 2010–2011, 70 percent of Massachusetts high school graduates had completed the MassCore curriculum, ahead of the target of 55 percent and the SY 2009–2010 rate of 50 percent. According to the State, MassCore exceeds the requirements for State four-year colleges and the University of Massachusetts. It requires one additional unit of mathematics (four total), an additional lab-based science course (three total), an additional unit of history or social science (three total), and one course in the arts. Currently, 126 LEAs are implementing the MassCore curriculum as a requirement for graduation (for more on MassCore, see the *Emphasis on Science, Technology, Engineering, and Mathematics* section).

The State received a high level of interest in its pre-AP training program, especially from Level 3 and 4 districts. These trainings aim to increase the rigor of middle and early high school courses in order to prepare students for AP coursework as high school juniors and seniors. According to the State's September 2011 APR, about 500 educators have participated in this training. The State anticipates that the increased popularity of this training will further boost college and career readiness among its students.

Massachusetts also prepared to implement its Innovation Schools initiative. Innovation Schools are in-district schools that have greater autonomy and flexibility with regard to curriculum, schedule and calendar, staffing, professional development, budget, and district policies. In Year 1, the State issued grants to support planning for 26 Innovation Schools.

Dissemination of resources and professional development

Massachusetts is offering increased support to its educators as they transition to new educational standards. The State provided copies of the standards to each of its 80,000 educators and held a number of statewide and regional events to support the transition, including a statewide curriculum summit and a series of regional meetings. The State's content institutes, which took place in summer 2011, provided professional development aligned with the CCSS. In addition, Massachusetts developed hour-long modules for all grade levels that are designed to help teacher and administrator teams explore the parts of the new standards that differ significantly from the previous framework. ESE curriculum resources can be

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[5] States that adopt the CCSS are permitted to augment the CCSS with up to an additional 15 percent of content.

found at http://www.doe.mass.edu/candi/commoncore/. The State contracted with WGBH, its local PBS affiliate, to provide video-based curricular materials through an existing web resource, the Massachusetts Teachers Domain. Massachusetts also conducted CCSS-related professional development through its Readiness Centers (for more on Readiness Centers, see the *Great Teachers and Leaders* section).

New curricular resources also support the transition to the CCSS. Massachusetts convened a team of 175 educators from around the State to develop content for a new Teaching and Learning System. This system will provide model curriculum units, a digital resource library, and curriculum-embedded performance tasks (CEPTs). A kickoff session for the curriculum team was held in April 2011, followed by a week-long intensive workshop in July. The team has already developed 40 model curriculum units that were tested in classrooms in fall 2011. The team is also developing CEPTs, formative assessments, and tools to allow LEAs to develop interim assessments. Massachusetts is working with New York and Rhode Island to identify possible opportunities to collaborate on the development of curriculum resources.

Lessons learned

The State determined that it needed more time to implement some of its initiatives in this core education reform area. It shifted the alignment of English language proficiency standards with the CCSS from Year 1 to Year 2 and its social studies standards alignment from Year 2 to Year 3. As a result, Massachusetts will have more time to assess the progress of its English Language Development Assessment and to ensure that implementation is of high quality. The State also learned that CEPTs are more effective when integrated with other materials that pertain to a curricular unit and, thus, that it would be a better approach to create at least two CEPTs for each of the subject-grade areas for which it is developing model curriculum units. Given these factors, the State reduced the number of CEPTs to be developed to 100 total and will align them with model units.

In Year 1, Massachusetts saw that it needed to adjust its plan to ensure alignment between State efforts and PARCC efforts. At the time of the application, the State was unsure if PARCC would be awarded a grant. After PARCC and Massachusetts were both awarded grants, the State shifted its development of interim and formative assessments from Year 1 to Year 2. This change was designed to ensure that the efforts of the State and PARCC are not duplicative but rather support each other in promoting access to high-quality assessments for the State's educators.

Looking ahead to Year 2

The State will continue its efforts to transition to the CCSS in Year 2. The State aims to complete the alignment of LEA curricula to the new Massachusetts Curriculum Frameworks by June 2012. In Year 2, it will continue to create new CCSS-based materials, such as sample units and CEPTs. It will pilot many new materials, including new units that are linked to resources in its digital library, and will also test the electronic submission of student work and scores. The State will develop tools to facilitate the creation of interim and formative assessments for ELA and mathematics in grades 3–8. Massachusetts will continue to conduct summits, webinars, and roundtables to discuss CCSS implementation in schools. It will also continue to participate in PARCC's efforts to develop new assessments for SY 2014–2015.

As of October 2011, 18 Innovation Schools were in operation across the State. In addition to implementing this first cohort, Massachusetts will continue to add schools to the program in Year 2. The State released an RFP to support the planning for additional Innovation Schools. The State held a panel discussion to provide information regarding the planning and implementation of additional Innovation Schools and will continue to provide support to LEAs and external partners as they design and run these new schools.

Data Systems to Support Instruction

Statewide longitudinal data systems (SLDS) and instructional improvement systems (IIS) enhance the ability of States to effectively manage, use, and analyze education data to support instruction. Race to the Top States are working to ensure that their data systems are accessible to key stakeholders and that the data support educators and decision-makers in their efforts to improve instruction and increase student achievement.

Fully implementing a statewide longitudinal data system

Massachusetts is working to link, upgrade, and expand its data systems so that schools will be able to track data more closely and better serve their students' learning needs. The State reported that its SLDS contains all 12 America COMPETES Act elements. All LEAs in the State use the current system, the Education Data Warehouse (EDW). The State will build the Massachusetts Teaching and Learning System, which will include curricular supports such as model curriculum units and a digital library, a test builder for interim and formative assessments, and access to student achievement and growth data.

The State made significant progress in its data system upgrades, especially in making data compatible between schools and across databases. Through Race to the Top, the State is expanding use of the Schools Interoperability Framework (SIF) by LEAs. This tool will reduce the burden on LEAs and schools in reporting data and permits users to access data in real time. Massachusetts is below its targets for the Year 1 rollout of the SIF, with 65 LEAs implementing SIF in SY 2010–2011, against a target of 122.

As Massachusetts works to improve the cross-compatibility of its LEA data sources, it is expanding the capacity of its existing data warehouse. In its Race to the Top application, the State reported that it had already integrated enrollment, attendance, performance, and student mobility data for students who are learning English, enrolled in special education programs, or at risk of dropping out. To further expand its capacity, in Year 1, Massachusetts completed an assessment of the requirements for expanding the EDW. The State will use this assessment to design and implement strategies that will improve functionality, usability, and data capacity.

Accessing and using State data

The State recognizes that collecting data is only the first step in promoting use of data to inform instruction. Massachusetts engaged in outreach efforts to ensure that its data systems meet educator needs. A Teaching and Learning System Working Group composed of curriculum, assessment, library, and technical staff defined a common vision and list of requirements for the Teaching and Learning System. Contractors demonstrated various components of the system for educators, which helped the State select components and envision how they would be integrated into the EDW. The State also used surveys to gather information about how LEAs currently use data systems and where those systems fall short.

Another key component of the State's strategy regarding data is training to help educators understand how to use data systems effectively to access data and apply it to their practice. Currently, the State uses seven training modules to support educators' use of the EDW. The State plans to use a similar training model for the rollout of new data resources. It has begun to determine the types of training and professional development that will be needed and plans to create modules for data dashboards, the EDW, the digital library, and the Teaching and Learning System. In Year 1, Massachusetts began to expand its existing digital library, the Massachusetts Teachers Domain, to incorporate additional resources.

Challenges

Massachusetts experienced technical challenges and difficulties creating system requirements. As a result, some upgrades to the State's data systems were shifted to later years so that the State could ensure that its technology would function properly and appropriately support educators. Massachusetts also delayed the implementation of its Teaching and Learning System. It is cooperating with other States on the possibility of sharing in the development of such a system and will hold on awarding a contract until it finalizes the details of such a partnership.

During Year 1, the State found that its estimate of the LEA cost of implementation for the SIF was too low. As a result, the State amended its application to serve only participating LEAs with the SIF, as opposed to serving all LEAs. As implementation continues, the State believes that nonparticipating LEAs will discover the value of implementing the SIF and use other funding sources to support implementation.

In addition, Massachusetts had trouble hiring qualified staff for some key positions. The State mitigated this challenge by relying more on contractor support and continues to work to build internal capacity in this area.

Looking ahead to Year 2

Massachusetts will continue to scale up its data system capacity, based on its revised plans and the results of already completed needs assessments. The State plans to make substantial progress on its Teaching and Learning System in Year 2 by finalizing the architecture, creating a detailed system design, and beginning to develop the system. Depending on the outcome of negotiations with other States, Massachusetts may jointly procure the Teaching and Learning system with other States. Additionally, the State plans to expand its educator training and supports for data use and revise its data-use courses and will expand its digital library to include videos of effective teaching practices.

In Year 2, Massachusetts also intends to increase the number of LEAs that transfer all of their student information, human resources, and other data through the SIF. The State has indicated that it expects to meet its goal of having every participating LEA use the SIF to transfer data by the end of the grant period. The State will also research and analyze requirements for educator dashboards and additional data sets, which it plans to roll out in Year 4.

Great Teachers and Leaders

Race to the Top States are developing comprehensive systems of educator effectiveness by adopting clear approaches to measuring student growth; designing and implementing rigorous, transparent, and fair evaluation systems for teachers and principals; conducting annual evaluations that include timely and constructive feedback; and using evaluation information to inform professional development, compensation, promotion, retention, and tenure decisions.

Improving teacher and principal effectiveness based on performance

As part of its Race to the Top plan, the State created a set of revised requirements and guidelines for LEA evaluation systems. In May 2010, BESE created the Massachusetts Task Force on the Evaluation of Teachers and Administrators, which released its recommendations in March 2011. After the recommendations were released, the Board opened a public comment period and held regional forums for teachers and principals. During the forums, State staff explained the key elements of the proposed regulations to educators and sought their feedback. Following these stakeholder outreach efforts, BESE approved the final regulations on June 28, 2011. The regulations:

- Mandate the establishment of evaluation systems and performance standards for all teachers;

- Create four performance levels—Exemplary, Proficient, Needs Improvement, and Unsatisfactory;

- Permit school committees to adopt the State's model system or to develop a local system consistent with the same principles;

- Describe standards to be used in the evaluation of teachers and administrators, including measures of student progress and statewide growth measures;

- Require educators and evaluators to develop individual Educator Plans, which are connected to professional development;

- Create different evaluation schedules and classes of Educator Plans for educators of different experience and performance levels; and

- Outline a schedule for implementing evaluation systems, beginning with LEAs that contain Level 4 schools in 2011–2012.

Massachusetts' participating LEAs will conduct a phased-in implementation of an evaluation system that meets the requirements of the new educator evaluation framework. LEAs may adopt or adapt the ESE model system, or formulate their own educator evaluation systems, in alignment with State regulations.

At the State level, Massachusetts plans to offer a great deal of support to its LEAs as they design and implement their evaluations. The State is developing a model evaluation system that includes rubrics, protocols, forms, templates, and tools that LEAs may adopt. In cases where LEAs elect to use their own rubrics, these must be as rigorous and comprehensive as the State's versions. In Year 1, the State completed work to support Level 4 schools and 11 "early adopter" districts, which are scheduled to implement the new evaluation framework in SY 2011–2012. The State developed guidance and educator evaluation rubrics for the evaluation framework as a resource for schools. Since that time, the State has made several more presentations to educators from around the State, and Massachusetts continues to refine the model system through its work with those LEAs that are implementing evaluation systems in SY 2011–2012. The State also created a Leadership Steering Committee for Educator Evaluation to monitor implementation.

The State is redesigning the Teacher Effectiveness and Quality Improvement Plan (TEQIP) tool, originally launched in 2008, to gather district effectiveness data. The tool will facilitate the use of such data to inform district support, hiring, and placement decisions.

Ensuring equitable distribution of effective teachers and principals

The State actively monitors its progress in building a more effective educator workforce. A principal source of information regarding the distribution of effective teachers will be the Education Personnel Information Management System (EPIMS). LEAs have been submitting educator data through EPIMS since 2008. In SY 2010–2011, the State modified EPIMS to ensure that it accurately linked students to their teachers. The data are used to populate the TEQIP, allowing the State to track which students and schools are served by effective teachers. The State will collect additional educator effectiveness information, including summative evaluation ratings, through EPIMS in SY 2012–2013. Massachusetts also gathers information on the status of its educator workforce through Mass TeLLS, a statewide teacher survey that is funded by Race to the Top. Massachusetts states that the survey informs its efforts to recruit and retain effective teachers by providing information about teaching and learning conditions, which helps the State develop concrete plans to address specific issues.

Great Teachers and Leaders

Improving the effectiveness of teacher and principal preparation programs

Massachusetts is developing an effectiveness-based, transparent accountability system for its teacher preparation programs. It plans to implement higher standards for program approval and to better align preparation programs with workforce needs. In Year 1, the State piloted and refined new effectiveness indicators, which will serve as a critical source of data in the evaluation of programs based on new regulations that the State began to draft in Year 1. As part of the effort to draft the regulations, in summer 2011, Massachusetts began to solicit feedback on draft regulations for educator preparation program approval and reporting from school district leaders and other key stakeholders. For example, the State received feedback from its preparation programs on the new effectiveness indicators through an August survey. The new regulations are scheduled to be presented to BESE in January 2012.

The State's new performance-based licensure system for administrators will be a critical component of ensuring principal effectiveness. In September 2011, Massachusetts was in the final stages of developing this licensure system, which it crafted with the help of national experts. The proposed system will hold administrators to high standards and aligns with the State's new standards for educator evaluation. ESE submitted its final proposal to BESE in October 2011, and BESE voted to solicit public comment on the proposed regulations.

Providing effective support to teachers and principals

According to Massachusetts, the State has strengthened its professional development offerings in Year 1 and aligned them with Race to the Top goals and objectives. The State is also working with LEAs to revise standards for professional development offered by LEAs to incorporate performance and quality measures. This effort will help LEAs assess the quality of professional development offerings and help LEAs make the professional development more useful to educators.

In Year 1, in partnership with the Massachusetts Association of School Superintendents, the State offered a superintendent induction program that provides training on topics such as how to improve human resource systems. Twenty-five superintendents participated in Year 1, and the State reported that in Year 2, 18 of 19 new superintendents are participating in a second cohort of the program. The State also provided training for principals and other administrators to help them become more effective instructional leaders. In partnership with the National Institute for School Leaders (NISL), Massachusetts started 12 24-month administrator professional development cohorts in 2010. In inviting participants, the State placed a special emphasis on administrators who work at Level 3 schools.

Massachusetts also provides support for educators through its six regional Readiness Centers, which cover grades P–16 and are housed in colleges and universities around the State. These units catalyze collaboration between educational stakeholders, offer targeted professional development services to educators, and facilitate sharing of best practices. Additionally, the State promoted effective practices among its educators by conducting a Model Curriculum and Curriculum Embedded Performance Assessment working session, at which 40 model curricular units were developed for the new State standards (see *Standards and Assessments* section).

The State used existing staff to lead the implementation of professional development programs due to difficulties in hiring a statewide professional development coordinator. A coordinator was hired in October 2011, and the State believes that this addition will enable it to implement these activities even more effectively.

Lessons learned

For the project to support teachers who hold a licensure to gain English as a second language (ESL) and special education licenses, the State determined after review and feedback that it was not feasible for teachers to both complete coursework and receive licensure in one year due to the quantity of coursework that would be needed. As a result, the State is allowing for additional time for completion of the coursework. The State aims to have 468 newly licensed ESL and special education teachers by the end of the grant period. This target represents an adjustment to the original performance measure, anchoring the target in a concrete goal, which is to reduce to zero the number of district-based teachers who are teaching on waivers of State licensure requirements for ESL and moderate disability special education by the end of the grant period.

Looking ahead to Year 2

For SY 2011–2012, Massachusetts reported in its APR that all 34 of the State's Level 4 schools and 11 "early adopter" districts will implement new educator evaluation systems. These LEAs will use the evaluation to target professional development to educators. In Year 2, the State will collect and analyze evaluation plans from LEAs that have not yet implemented evaluations. Beginning in SY 2012–2013, all Massachusetts participating LEAs will be required to implement an evaluation system that complies with the State's regulations; all LEAs in the State will be required to implement in SY 2013–2014. The summative performance rating takes into account multiple measures of student learning. In addition, starting in SY 2013–2014, all LEAs will begin to implement the rating of impact on student learning, which is measured based on measures of student learning gains, including MCAS student growth percentiles and MEPA gain scores, when available.

Great Teachers and Leaders

Every two years, beginning in SY 2011–2012, Massachusetts will publish a *Status of the Educator Workforce* report, which will include an analysis of data from several sources. The report will cover many issues related to the State's education workforce, including the distribution of effective teachers. This will help parents, educators, LEAs, policy leaders, ESE, and others assess the State's progress.

In Year 2, Massachusetts will offer competitive grants to increase the scale of effective teacher and principal preparation programs, including one set of grants for residency models of principal preparation. The State plans to adopt its new regulations for educator preparation program approval and reporting, as well as new effectiveness indicators, in January 2012. These regulations will reflect the feedback received in the process that occurred at the end of Year 1. The State plans to develop new educator preparation program report cards using Title II data. In Year 2, Massachusetts also expects to adopt regulations for a tiered principal licensure system and career ladder, as well as teacher leader performance assessments and portfolio systems.

The State will continue to develop professional development programs that align with Race to the Top objectives and will focus on high-need areas and LEA priorities. The State will hold several statewide summits and regional forums, including professional development opportunities for school leaders on becoming effective evaluators. In addition, the State will provide support to LEAs for improving their human resources systems, including coaching and a human resources toolkit. Massachusetts also plans to revise its professional development standards.

Turning Around the Lowest-Achieving Schools

Priority Partners

Priority Partners are organizations with a proven record of accomplishment and demonstrated effectiveness in accelerating school improvement. Massachusetts identified Priority Partners for Turnaround in two Conditions: Addressing Students' Social, Emotional and Health Needs and Maximizing Learning Time. The State pre-approved seven Priority Partners for Turnaround. These organizations passed a thorough vetting process and have proven ability to accelerate school intervention. Four of these partners specialize in maximizing learning time, while the other three have demonstrated effectiveness at addressing students' social, emotional, and health needs. The State is assisting two Level 4 districts in their efforts to secure a lead partner for restart efforts at Level 4 schools.

To learn more about this program and see examples of Priority Partners, see ESE's "Priority Partners for Turnaround: Summary List and Profiles" document, found at http://www.doe.mass.edu/sda/framework/level4/PriorityPartners.pdf.

Race to the Top States are supporting LEAs' implementation of far-reaching reforms to turn around lowest-achieving schools by implementing one of four school intervention models.[6]

In January 2010, the Massachusetts Legislature passed An Act Relative to the Achievement Gap. This law, along with the final regulations passed by BESE, grants the State the authority to intervene in the lowest-achieving schools and LEAs.

Level 3 and 4 schools, which are among the lowest-performing 20 percent in the State, were identified in 2010, and in Year 1, 35 schools initiated intervention models. Twenty schools initiated the transformation model, 12 initiated the turnaround model, two initiated the restart model, and one school closed. Massachusetts' school intervention efforts are led by the Office of District and School Turnaround within ESE. In order to assess the schools' needs, independent reviewers completed site visits at all 34 of the State's Level 4 schools.[7] These reviews assessed the baseline conditions for effectiveness at the school, identified strengths and weaknesses in LEA supports, examined current intervention supports and efforts, and helped the school determine its next steps.

The State developed a variety of supports for persistently lowest-achieving (PLA) schools. Wraparound Zones are a cornerstone of Massachusetts' school intervention efforts. Wraparound Zone grants aim to address student needs that affect academic and nonacademic learning outcomes. Wraparound Zone schools are required to create a proactive system for identifying academic and non-academic student needs, offer customized and multi-faceted interventions to at-risk students, connect social workers and families to school practices, and monitor the effectiveness of their programs. Participating LEAs submit plans to the State that describe how they will accomplish these goals and make progress in other improvement areas. The State's Wraparound Zone Coordinator and technical assistance vendor provide support to LEAs and schools as they plan and implement these programs.

In Year 1, Massachusetts reported that schools initiating one of the four school intervention models made impressive achievement gains. Twenty-two of the 34 schools achieved combined proficiency gains in ELA and mathematics of five points or higher between 2009–2010 and 2010–2011, and six of the schools made double-digit gains in both ELA and mathematics. In three intervention model schools, student achievement in mathematics increased by 20 points.

As the State implements its school intervention efforts, it is also building up its school intervention capacity. Massachusetts uses its six regional District and School Assistance Centers (DSACs) to support LEAs and their schools in accessing professional development and targeted assistance to improve instruction and, ultimately, raise student achievement. DSAC assistance focuses on three key areas: supporting self-assessment and planning, enhancing opportunities to learn about and share effective practices, and facilitating the use of ESE assistance tools.
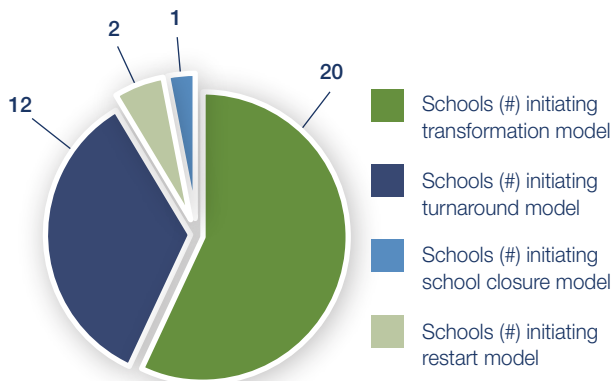
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[6] Race to the Top States' plans include supporting their LEAs in turning around the lowest-achieving schools by implementing one of the four school intervention models:

- **Turnaround model:** Replace the principal and rehire no more than 50 percent of the staff and grant the principal sufficient operational flexibility (including in staffing, calendars/time and budgeting) to fully implement a comprehensive approach to substantially improve student outcomes.

- **Restart model:** Convert a school or close and reopen it under a charter school operator, a charter management organization, or an education management organization that has been selected through a rigorous review process.

- **School closure:** Close a school and enroll the students who attended that school in other schools in the district that are higher achieving.

- **Transformation model:** Implement each of the following strategies: (1) replace the principal and take steps to increase teacher and school leader effectiveness, (2) institute comprehensive instructional reforms, (3) increase learning time and create community-oriented schools, and (4) provide operational flexibility and sustained support.

[7] According to the State, Level 3 and Level 4 are defined as follows: Level 3 – districts with one or more schools among the lowest-performing 20 percent based on quantitative indicators. Level 4 – districts identified by quantitative and qualitative indicators through a district review; districts with one or more schools among the lowest-performing and least improving 2 percent based on quantitative indicators.

Turning Around the Lowest-Achieving Schools

School Intervention Models Initiated in Massachusetts in SY 2010–2011

2
1
12
20

- Schools (#) initiating transformation model
- Schools (#) initiating turnaround model
- Schools (#) initiating school closure model
- Schools (#) initiating restart model

Massachusetts expects all Level 4 and Level 5 districts to implement the Essential Conditions for School Effectiveness (Conditions), which were adopted as regulations by the BESE in 2010.[8] The conditions are considered to be necessary for effectively educating students in the State. LEAs participating in Race to the Top that have schools that are identified as PLAs may partner with Priority Partners for Turnaround to assist the schools in implementing specific Essential Conditions. The State is also developing supports for LEAs struggling with governance issues, a common challenge in LEAs with PLA schools in Massachusetts.

State projects in other areas also target PLA schools. For example, Level 3 LEAs are given priority for funds to create STEM Early College High Schools (see *Emphasis on Science, Technology, Engineering, and Mathematics* section), and the State gathers added data on Level 3 and Level 4 districts through its reporting system (see *State Success Factors* section). The State also prioritized low-achieving LEAs for its NISL leadership training (see *Great Teachers and Leaders* section).

Lessons learned

ESE took on a greater share of the Year 1 school intervention work than it had anticipated and reallocated or delayed some of the funding that had originally been designated for state associations, intermediaries, and consulting support. The State found that it had the capacity and ability to work with the current low-performing schools implementing the restart model without an intermediary. It also found that the needs of its schools and LEAs did not call for external support as early as initially planned.

Massachusetts decided to select its first classes of proven teachers and principals in Year 3, for placement that same year. Once created, these teams of teachers and principals will be placed in schools that need to undergo major staff changes. Initially, the teacher and leader teams were to be selected in Year 1 and deployed in Year 2, but Massachusetts changed its plans based on LEA feedback. LEAs did not anticipate needing these teams for SY 2011–2012, but several anticipated a need for school intervention teams in SY 2012–2013. The State also adjusted its target for the number of teachers served by this program to meet the needs identified in its needs assessment.

For SY 2011–2012, Massachusetts awarded Wraparound Zone grants to five urban LEAs that serve 18 Level 4 schools. Massachusetts originally planned to award grants to three LEAs, but the State discovered that more LEAs were ready to initiate the program than anticipated. The State also approved a proposal for a sixth LEA, which is using Year 2 as a planning period.

Looking ahead to Year 2

Massachusetts will select its first class of 10 proven principals in Year 2, as well as its first cohort of proven teachers. These teachers and leaders will start to work in low-achieving schools in Year 3. The State also plans to identify partners that would help execute the restart model of school interventions that occur in future grant years. It intends to make grants to three Priority Partners in Year 2. Massachusetts will continue to evaluate its teacher preparation and school intervention efforts using LEA feedback and expert input.

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[8] According to the State, Level 5 is defined as follows: districts or schools declared by BESE as requiring "Joint District-ESE Governance".

Marlborough Public Schools' STEM Early College High School

Marlborough Public Schools' STEM Early College High School will open in SY 2011–2012 in grades 6 and 9. Additional grades will be added each year until the school houses grades 6–12. The school will integrate project-based learning experiences and personalized portfolio assessment with community involvement and internships in STEM-related careers. Students will have the opportunity to earn up to 16 college credits through Framingham State University while they are still in high school.

According to Massachusetts, the State instituted reforms aimed at boosting academic standards, increasing the supply and quality of STEM teachers, and making more resources available to students. Through these reforms, the State aims to reduce achievement gaps in STEM subjects and to increase student interest in pursuing STEM careers.

STEM Early College High Schools are central to this effort. To date, Massachusetts has awarded six STEM Early College High School grants. LEAs have partnered with colleges, including community colleges, and universities. The high schools offer students the opportunity to focus on STEM coursework and earn 12 to 30 college credits. One of the key purposes of the Early College High School grants is to increase STEM college and career readiness among traditionally underrepresented groups. The grants provide pathways for groups such as low-income or minority students and first-generation college attendees to enter STEM fields. In Year 1, Massachusetts held a technical assistance summit for the six grantees.

State efforts to promote college and career readiness through enhanced standards also promote higher achievement in STEM disciplines. MassCore, a rigorous diploma track designed to promote college and career readiness, requires that graduates take at least three years of lab-based science coursework, and at least four years of mathematics. The State also supports higher STEM standards through its pre-AP training program (see the *Standards and Assessments* section).

The State is boosting the availability of STEM curricular materials and support to STEM educators. In Year 1, it added STEM curricular materials for its Teaching and Learning System. Of the 175 educators who are participating in the development of model curricular materials for the transition to the CCSS, 94 are science or mathematics specialists. Nineteen of the 40 curricular units developed thus far pertain to science or mathematics topics.

Lessons learned

The State learned that it needed to do further outreach to engage educators in its pre-AP training program. In Year 1, 463 educators participated. While the training appeared to be successful, the State did not reach its target of reaching 1,000 educators. At the start of Year 2, the project lead reached out to LEAs to provide additional information about the program and respond to educator questions. The State believes these efforts will result in increased engagement in Year 2.

Looking ahead to Year 2

In Year 2, the first cohort of students will enroll in the six STEM Early College High Schools whose grants were awarded in Year 1. Other LEAs will begin to plan STEM Early College High Schools as well. The State will also continue to develop curricular units and CEPTs. Half of the CEPTs to be developed by the State's curriculum teams will focus on science or mathematics.

The State is increasing support to STEM educators by expanding the number of qualified and effective mentors available to new teachers, particularly those who work in STEM fields. The mentorship effort aims to improve retention of such educators and increase their effectiveness.

The State will award a grant to prepare 250 new STEM teachers in the State. The new teacher preparation program will be administered in partnership with UTeach. The UTeach model was originally developed at the University of Texas at Austin in 1997, and its success at increasing the number of STEM teachers has made it a national model.

Progress Updates on Invitational Priorities

In its Year 1 APR, Massachusetts reported the following progress:

Innovations for improving early learning outcomes

The State convened a cross-agency early literacy task force charged with developing recommendations for boosting early literacy rates and increasing reading proficiency. Additionally, the State developed a framework that focuses on aligning practices from birth through third-grade to improve third-grade reading scores. The State is developing an Early Warning Indicator System that will provide early education sites and LEAs with data to identify students who are at risk of falling behind.

Expansion and adaptation of statewide longitudinal data systems

The State Department of Early Education and Care, the State Department of Higher Education, and ESE are planning to share data to create a P–20 database. Massachusetts is working to integrate the existing ID system at ESE that currently assigns each student a unique identifier with an identifier that will be used across all three education agencies. The State redesigned its EDW to allow LEAs easier access to State assessment results and accompanying reports.

P–20 coordination, vertical and horizontal alignment

The State held regional events to introduce educators from early education, elementary and secondary education, and higher education to the CCSS. Representatives from higher education served on a statewide task force to develop a new educator evaluation framework and have been involved in developing new performance-based standards for administrator licensure.

School-level conditions for reform, innovation, and learning

The State passed education reform legislation in 2010 that included the creation of Innovation Schools—public schools with increased autonomy related to curriculum, budget, school calendar, staffing, and policies. After one year of implementation of the statute, all of the State's 34 PLA schools have implemented one or more of the provisions of the legislation.

Budget

For the State's expenditures through June 30, 2011, please see the APR data display at www.rtt-apr.us. For State budget information see http://www2.ed.gov/programs/racetothetop/awards.html.

Glossary

Alternative routes to certification means pathways to certification that are authorized under the State's laws or regulations that allow the establishment and operation of teacher and administrator preparation programs in the State, and that have the following characteristics (in addition to standard features such as demonstration of subject-matter mastery, and high-quality instruction in pedagogy and in addressing the needs of all students in the classroom including English learners and students with disabilities): (a) can be provided by various types of qualified providers, including both institutions of higher education and other providers operating independently from institutions of higher education; (b) are selective in accepting candidates; (c) provide supervised, school-based experiences and ongoing support such as effective mentoring and coaching; (d) significantly limit the amount of coursework required or have options to test out of courses; and (e) upon completion, award the same level of certification that traditional preparation programs award upon completion.

Amendment requests: In the event that adjustments are needed to a State's approved Race to the Top plan, the grantee must submit an amendment request to the Department for consideration. Such requests may be prompted by an updated assessment of needs in that area, revised cost estimates, lessons learned from prior implementation efforts, or other circumstances. Grantees may propose revisions to goals, activities, timelines, budget, or annual targets, provided that the following conditions are met: such revisions do not result in the grantee's failure to comply with the terms and conditions of this award and the program's statutory and regulatory provisions; the revisions do not change the overall scope and objectives of the approved proposal; and the Department and the grantee mutually agree in writing to such revisions. The Department has sole discretion to determine whether to approve such revisions or modifications. If approved by the Department, a letter with a description of the amendment and any relevant conditions will be sent notifying the grantee of approval. (For additional information please see http://www2.ed.gov/programs/racetothetop/amendments/index.html.)

America COMPETES Act elements are (as specified in section 6401(e)(2)(D) of that Act): (1) a unique statewide student identifier that does not permit a student to be individually identified by users of the system; (2) student-level enrollment, demographic, and program participation information; (3) student-level information about the points at which students exit, transfer in, transfer out, drop out, or complete P–16 education programs; (4) the capacity to communicate with higher education data systems; (5) a State data audit system assessing data quality, validity, and reliability; (6) yearly test records of individual students with respect to assessments under section 1111(b) of the ESEA (20 U.S.C. 6311(b)); (7) information on students not tested by grade and subject; (8) a teacher identifier system with the ability to match teachers to students; (9) student-level transcript information, including information on courses completed and grades earned; (10) student-level college-readiness test scores; (11) information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework; and (12) other information determined necessary to address alignment and adequate preparation for success in postsecondary education.

American Recovery and Reinvestment Act of 2009 (ARRA): On February 17, 2009, President Obama signed into law the ARRA, historic legislation designed to stimulate the economy, support job creation, and invest in critical sectors, including education. The Department of Education received a $97.4 billion appropriation.

Common Core State Standards (CCSS) are K-12 English language arts and mathematics standards developed in collaboration with a variety of stakeholders including States, governors, chief State school officers, content experts, States, teachers, school administrators, and parents. The standards establish clear and consistent goals for learning that will prepare America's children for success in college and careers. As of December 2011, the Common Core State Standards were adopted by 45 States and the District of Columbia.

Effective teacher means a teacher whose students achieve acceptable rates (e.g., at least one grade level in an academic year) of student growth (as defined in the Race to the Top requirements). States, LEAs, or schools must include multiple measures, provided that teacher effectiveness is evaluated, in significant part, by student growth (as defined in the Race to the Top requirements). Supplemental measures may include, for example, multiple observation-based assessments of teacher performance.

The Core education reform areas for Race to the Top are as follows:

1. Standards and Assessments: Adopting rigorous standards and assessments that prepare students for success in college and the workplace;

2. Great Teachers and Great Leaders: Recruiting, developing, retaining, and rewarding effective teachers and principals;

3. Data Systems to Support Instruction: Building data systems that measure student success and inform teachers and principals how they can improve their practices; and

4. Turning Around the Lowest-Achieving Schools.

Highly effective teacher means a teacher whose students achieve high rates (e.g., one and one-half grade levels in an academic year) of student growth (as defined in the Race to the Top requirements). States, LEAs, or schools must include multiple measures, provided that teacher effectiveness is evaluated, in significant part, by student growth (as defined in the Race to the Top requirements). Supplemental measures may include, for example, multiple

observation-based assessments of teacher performance or evidence of leadership roles (which may include mentoring or leading professional learning communities) that increase the effectiveness of other teachers in the school or LEA.

Instructional improvement systems (IIS) 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 the Race to the Top requirements), interim assessments (as defined in the Race to the Top requirements), summative assessments, and looking at student work and other student data); analyzing information with the support of rapid-time (as defined in the Race to the Top requirements) 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.

Invitational priorities are areas of focus that the Department invited States to address in their Race to the Top applications. Applicants did not earn extra points for addressing these focus areas, but many grantees chose to create and fund activities to advance reforms in these areas.

Involved LEAs are LEAs that choose to work with the State to implement those specific portions of the State's plan that necessitate full or nearly-full statewide implementation, such as transitioning to a common set of K-12 standards (as defined in the Race to the Top requirements). Involved LEAs do not receive a share of the 50 percent of a State's grant award that it must subgrant to LEAs in accordance with section 14006(c) of the ARRA, but States may provide other funding to involved LEAs under the State's Race to the Top grant in a manner that is consistent with the State's application.

P-20 data systems integrate student data from pre-kindergarten through higher education.

Participating LEAs are LEAs that choose to work with the State to implement all or significant portions of the State's Race to the Top plan, as specified in each LEA's agreement with the State. Each participating LEA that receives funding under Title I, Part A will receive a share of the 50 percent of a State's grant award that the State must subgrant to LEAs, based on the LEA's relative share of Title I, Part A allocations in the most recent year, in accordance with section 14006(c) of the ARRA. Any participating LEA that does not receive funding under Title I, Part A (as well as one that does) may receive funding from the State's other 50 percent of the grant award, in accordance with the State's plan.

The **Partnership for Assessment of Readiness for College and Careers (PARCC)** is one of two consortia of States awarded grants under the Race to the Top Assessment program to develop next-generation assessment systems that are aligned to common K-12 English language and mathematics standards and that will accurately measure student progress toward college and career readiness. (For additional information please see http://www.parcconline.org/.)

Persistently lowest-achieving schools means, as determined by the State: (i) any Title I school in improvement, corrective action, or restructuring that (a) is among the lowest-achieving five percent of Title I schools in improvement, corrective action, or restructuring or the lowest-achieving five Title I schools in improvement, corrective action, or restructuring in the State, whichever number of schools is greater; or (b) is a high school that has had a graduation rate as defined in 34 CFR 200.19(b) that is less than 60 percent over a number of years; and (ii) any secondary school that is eligible for, but does not receive, Title I funds that (a) is among the lowest-achieving five percent of secondary schools or the lowest-achieving five secondary schools in the State that are eligible for, but do not receive, Title I funds, whichever number of schools is greater; or (b) is a high school that has had a graduation rate as defined in 34 CFR 200.19(b) that is less than 60 percent over a number of years. To identify the lowest-achieving schools, a State must take into account both (i) the academic achievement of the "all students" group in a school in terms of proficiency on the State's assessments under section 1111(b)(3) of the ESEA in reading/language arts and mathematics combined; and (ii) the school's lack of progress on those assessments over a number of years in the "all students" group. (For additional information please see http://www2.ed.gov/programs/sif/index.html.)

Qualifying evaluation systems are those that meet the following criteria: rigorous, transparent, and fair evaluation systems for teachers and principals that: (a) differentiate effectiveness using multiple rating categories that take into account data on student growth as a significant factor, and (b) are designed and developed with teacher and principal involvement.

The **School Improvement Grants (SIG)** program is authorized under section 1003(g) of Title I of the ESEA. Funds are awarded to States to help them turn around Persistently Lowest-Achieving Schools. (For additional information please see http://www2.ed.gov/programs/sif/index.html.)

School intervention models: A State's Race to the Top plan describes how it will support its LEAs in turning around the lowest-achieving schools by implementing one of the four school intervention models:

- *Turnaround model:* Replace the principal and rehire no more than 50 percent of the staff and grant the principal sufficient operational flexibility (including in staffing, calendars/time and budgeting) to fully implement a comprehensive approach to substantially improve student outcomes.

- **Restart model:** Convert a school or close and reopen it under a charter school operator, a charter management organization, or an education management organization that has been selected through a rigorous review process.

- **School closure:** Close a school and enroll the students who attended that school in other schools in the district that are higher achieving.

- **Transformation model:** Implement each of the following strategies: (1) replace the principal and take steps to increase teacher and school leader effectiveness, (2) institute comprehensive instructional reforms, (3) increase learning time and create community-oriented schools, and (4) provide operational flexibility and sustained support.

Single sign-on is a user authentication process that permits a user to enter one name and password in order to access multiple applications.

The **SMARTER Balanced Assessment Consortium (SBAC)** is one of two consortia of States awarded grants under the Race to the Top Assessment program to develop next-generation assessment systems that are aligned to common K-12 English language and mathematic standards and that will accurately measure student progress toward college and career readiness. (For additional information please see http://www.k12.wa.us/SMARTER/default.aspx.)

The **State Scope of Work** is a detailed document for the State project that reflects the grantee's approved Race to the Top application. The State Scope of Work includes items such as the State's specific goals, activities, timelines, budgets, key personnel, and annual targets for key performance measures. (For additional information please see http://www2.ed.gov/programs/racetothetop/state-scope-of-work/index.html.) Additionally, all participating LEAs are required to submit Scope of Work documents, consistent with State requirements, to the State for its review and approval.

Statewide longitudinal data systems (SLDS) enhance the ability of States to efficiently and accurately manage, analyze, and use education data, including individual student records. The SLDS help States, districts, schools, educators, and other stakeholders to make data-informed decisions to improve student learning and outcomes, as well as to facilitate research to increase student achievement and close achievement gaps. (For additional information please see http://nces.ed.gov/Programs/SLDS/about_SLDS.asp.)

Student achievement means—

a) For tested grades and subjects: (1) a student's score on the State's assessments under the ESEA; and, as appropriate, (2) other measures of student learning, such as those described in paragraph (b) of this definition, provided they are rigorous and comparable across classrooms.

b) For non-tested grades and subjects: alternative measures of student learning and performance such as student scores on pre-tests and end-of-course tests; student performance on English language proficiency assessments; and other measures of student achievement that are rigorous and comparable across classrooms.

Student growth means the change in student achievement (as defined in the Race to the Top requirements) for an individual student between two or more points in time. A State may also include other measures that are rigorous and comparable across classrooms.

Value-added models (VAMs) are a specific type of growth model in the sense that they are based on changes in test scores over time. VAMs are complex statistical models that generally attempt to take into account student or school background characteristics in order to isolate the amount of learning attributable to a specific teacher or school. Teachers or schools that produce more than typical or expected growth are said to "add value."