Fundamental Change

Innovation in America's Schools Under Race to the Top

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From the Secretary

A strong education opens doors to opportunity — and all children with dreams and determination should have the chance to reach their full potential. With this recognition, in 2009, President Obama and I announced a Race to the Top for American education.

The program offered unprecedented resources — $4 billion — to states that committed to reshaping their education systems and ensuring every student would graduate college- and career-ready, regardless of disability, race, zip code or family income. Although this program provided a larger sum of discretionary funding for education than had been available to states ever before, Race to the Top was not just about the money. It was about ensuring that every child in America — especially our most vulnerable — can thrive.

Then and now, the program also represented a groundbreaking approach to federal grantmaking. It called for the best ideas to improve teaching and learning from educators and leaders in states and communities throughout the country. The program enabled states and districts to expand upon effective and promising practices already in existence that were tailored to unique, local contexts.

In addition to building on what works, Race to the Top encouraged and supported state and local leadership on tough education reforms, which catalyzed deep thinking — and legislative activity — in states about improving how students are prepared for success in school and in life.

Even in states that did not win awards, the work to develop an application and establish the conditions for positive change unleashed an incredible amount of courage and creativity at the local level.

To break from a status quo that has traditionally denied disadvantaged students access to high standards, great teachers and leaders, and outstanding schools, an innovative, all-hands-on-deck approach is necessary. As a result, Race to the Top acknowledged the importance of collaboration — from administrators, to teachers, to unions, to parents and communities, to elected officials.

Race to the Top asked a lot of states — from establishing rigorous student achievement standards, to developing and supporting teachers and leaders, to leveraging data systems to inform and enhance instruction, to turning around the lowest-performing schools. But if we are to change the odds for our most vulnerable students and ensure a world-class education for every child, we must ask a lot of ourselves.

This work is complex and interconnected. And this work is far from done. Too many students, especially in underserved groups and communities, lack access to a quality education and supportive, well-resourced schools.

Despite the challenges, there are encouraging signs of progress. Over the course of the Obama administration's six years, America's schools have experienced positive change — and America's students have made gains. The high school graduation rate is at the highest point ever recorded. Dropout rates are down sharply for low-income and minority students; and, since 2008, college enrollment for African-Americans and Hispanics has increased by more than a million.

Ensuring that all students can access life-changing opportunity through education will require sustained effort. The real lessons from Race to the Top will be measured in the program's long-term impacts on student learning. There is no silver bullet solution or singular approach to improving education — states are taking multiple paths, and they are learning from each other in this work.

Race to the Top demonstrated that teachers, principals, administrators and others were — and still are — eager to work urgently and collaboratively to solve their most pressing education challenges. At the federal level, our hope is that bold blueprints for education reform both inspired and supported by Race to the Top will continue to be implemented in states across America so that all students can achieve.

Arne Duncan
U.S. Secretary of Education

Executive Summary

Race to the Top represented an unprecedented approach to competitive grant-making by giving states and districts the opportunity to build on their successes and innovate across their schools to improve outcomes and expand opportunities for millions of students. President Barack Obama launched the $4 billion program in 2009 as part of the *American Recovery and Reinvestment Act (ARRA)*,[1] with the recognition that urgent improvements in education were needed to prepare all students for a globally competitive economy and to drive change for low-income students, students of color and other groups of students for whom educational progress had come haltingly, if at all.

The goal of the program was ambitious: to bring together leaders from every level of school governance — from classroom teachers to state-level officials — to develop plans that would help prepare students for success in an information- and innovation-driven job market, where a quality education is essential both to national economic strength and to individual opportunity. Race to the Top invited state leaders to put forward plans to improve not one or two isolated elements of their schools, but to develop and implement comprehensive statewide plans to improve entire systems.

With the Department's support and the funds to make comprehensive changes, Race to the Top empowered visionary leaders to put forward bold plans for change and enable successful local initiatives to expand and flourish. And it encouraged states to establish the conditions for positive change in their school systems. While the greatest change was expected to occur in states that were awarded funds, the competition encouraged broad-based, systemic educational improvements even in states that did not win Race to the Top funding. States across the country saw an extraordinary surge of legislative activity aimed at improving education.

The need for change

A generation ago, good jobs — and a path to the middle class — were available to individuals who did not finish high school. In today's world, those paths are rapidly disappearing.[2] More than ever, a full, quality education is a prerequisite for success and economic security — not

[1] Sections 14005 and 14006 of the *American Recovery and Reinvestment Act of 2009 (ARRA)* (Public Law 111-5), as amended, authorized the Race to the Top program, referred to in *ARRA* as the State Incentive Grant Fund.

[2] Anthony Carnevale, Nicole Smith, and Jeff Strohl, *Recovery: Job Growth and Education Requirements Through 2020* (Washington, D.C.: Georgetown University Center on Education and the Workforce, 2013), https://cew.georgetown.edu/wp-content/uploads/2014/11/Recovery2020.FR_.Web_.pdf.

just for individuals, but also for nations. Today, employers seek experts and skilled individuals, regardless of national boundaries, ratcheting up the stakes for nations to educate their people well. Yet even as the premium on education has increased, the United States is falling behind. A historic and worldwide recession in 2009 further increased the urgency for America to improve its education systems. And while that need touched communities everywhere, it was most pronounced in communities of poverty and disadvantage. Gaps in college opportunities for individuals in the lowest-income brackets persist, as low-income students are less likely to enroll and graduate from college.[3] Then and now, the need for educational improvements, for students and for the nation, is profoundly urgent.

How Race to the Top worked

The essential idea of Race to the Top was to create incentives for states to continue the good work they had already done to improve education in their states and put forward bold, systemic plans that would lead to, in the President's words, "Better standards. Better teaching. Better schools."[4] Race to the Top empowered states to accelerate the pace and reach of their improvement activities and rewarded states that chose to create and implement comprehensive improvement agendas that they believed would increase student achievement and narrow achievement gaps in their states. States with records of success in improving teaching and learning could tap into the enthusiasm and creativity from constituents who had supported previous improvement efforts and use that support to drive systems-level change and disrupt the status quo. The focus was on breaking down silos that in the past had led to fragmented and isolated educational improvements in favor of making interconnected improvements simultaneously in four core areas:[5]

- Establishing high, challenging learning standards aligned with readiness for college and careers, and transforming instructional practices to enable students to meet the more challenging expectations.
- Developing and supporting effective teachers and leaders.
- Creating data systems and using technology to inform and enhance instruction.
- Turning around the lowest-performing schools.

Race to the Top rewarded states for enlisting their districts and key stakeholders (e.g., local officials, nonprofits, institutions of higher education, unions) in designing and implementing their comprehensive plans. The theory of action was that by working together, support for change and innovation would be built across key constituencies and sectors and enable states to push forward bold, and challenging, initiatives.

Finally, Race to the Top used transparency to advance knowledge about improving education and allow states to learn from each other. States' Race to the Top applications and reviewers' comments were posted online to be examined by the public and the media. Publicly posted annual reports on progress, technical assistance resources, and amendments provided information for the media and the public to evaluate and for researchers to analyze.

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[3] Martha J. Bailey and Susan M. Dynarksi, *Gains and Gaps: Changing Inequality in U.S. College Entry and Completion* (National Bureau of Economic Research [NBER] Working Paper No. 17633), (Cambridge, MA: NBER, 2011), http://www.nber.org/papers/w17633.

[4] Remarks by the President at the Department of Education (July 2009), https://www.whitehouse.gov/the-press-office/remarks-president-department-education.

[5] These four core areas were referred to as "assurance areas" in the Race to the Top Notice Inviting Applications. See Department of Education, *Overview Information: Race to the Top Fund: Notice Inviting Applications for New Awards for Fiscal Year (FY) 2010*, 74 Fed. Reg. 59836 (Nov. 18, 2009). Department of Education, *Overview Information; Race to the Top Fund; Notice Inviting Applications for New Awards for Fiscal Year (FY) 2010*, 74 Fed. Reg. 19496 (Apr. 14, 2010).

Forty-six states and the District of Columbia submitted Race to the Top applications. In 2010, through the Phase 1 and 2 competitions, 11 states and the District of Columbia received awards ranging from $75 million to $700 million to make systemwide, coordinated educational improvements for students and teachers in the four core areas. State work under the grants ended in summer 2015, except in Hawaii, where grant work ended in September 2014.[6]

Five years after the largest Race to the Top grants were awarded,[7] it is the right time to ask: What did Race to the Top accomplish? What worked and what didn't? Perhaps most important: What lessons can the nation take away to improve education in the years ahead? This report begins to answer these questions, with a focus on the first two phases of Race to the Top, the phases funded through *ARRA* and awarded to 11 states and the District of Columbia. The content of this report draws upon information provided through a new performance management approach implemented with Race to the Top states that included monthly progress calls, annual performance reviews and publicly available annual progress reports. This report also draws upon state reflections on progress and lessons learned through narratives submitted at the end of the four-year grant period, and through discussions hosted by the Reform Support Network (RSN).[8] Throughout the grant period, the RSN connected Race to the Top states with experts in the field who provided technical assistance, created opportunities for states to learn directly from other states, and documented lessons learned along the way to inform efforts in other states.

Race to the Top's success ultimately must be measured by its long-term impact on student learning. Because simultaneous change in multiple systems takes time, it is too early to make that determination of success now. However, many outcomes are trending in a positive direction, including higher graduation rates and Advanced Placement (AP) course taking (see pages ix and xiii). This report focuses on implementation — the successes and challenges to institutionalize broad and deep improvements throughout states. It also seeks to highlight the key practices and lessons learned during the first five years of implementing Race to the Top.

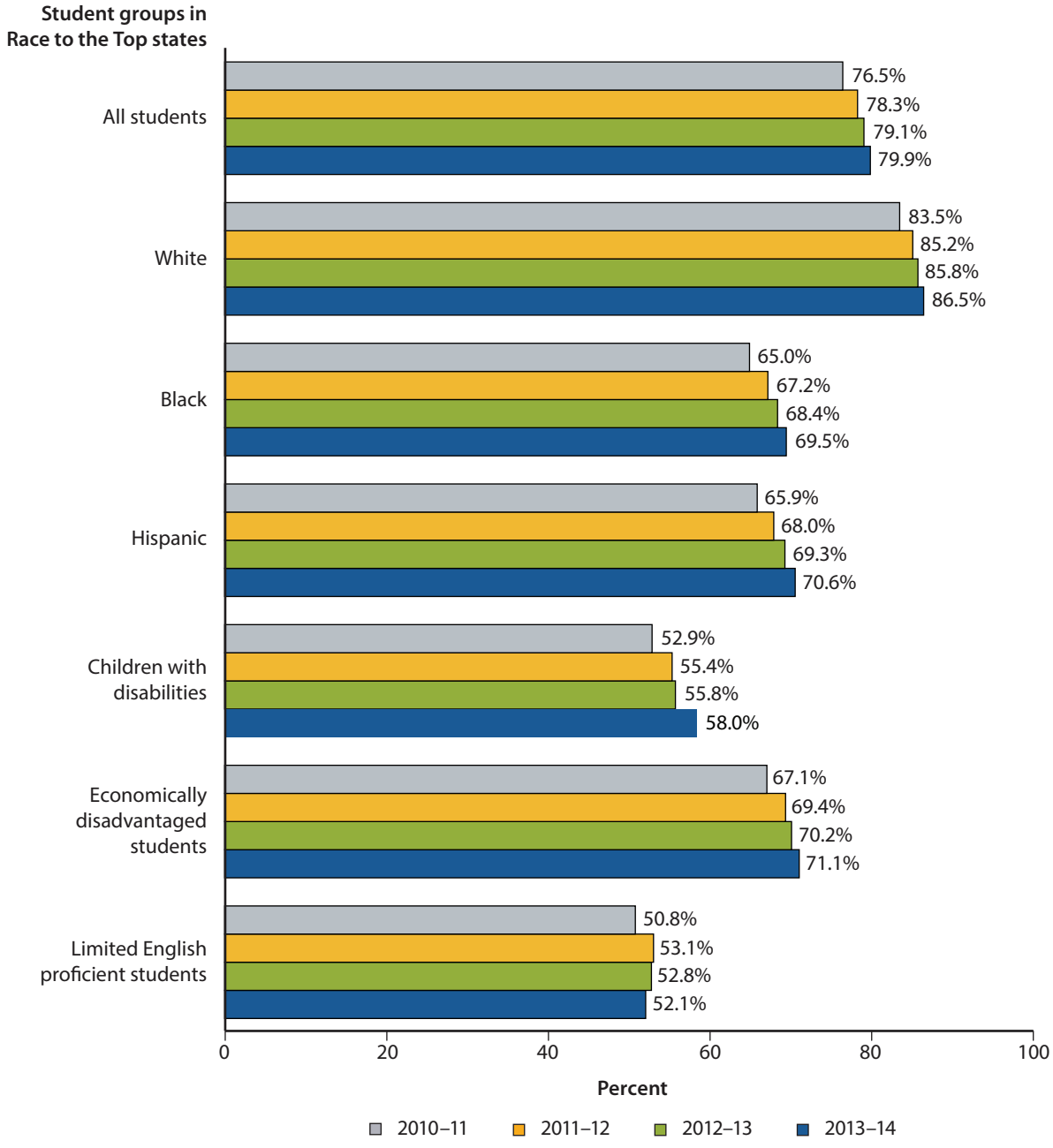
[6] Delaware and Tennessee's four-year Race to the Top grants ended in June and July 2014, respectively. The four-year grant period for the other 10 grantees ended in September 2014. All 12 grantees had the opportunity to extend their project period to September 2015 for a fifth year. Every state, except Hawaii, requested and was approved to extend portions of their work to September 2015.

[7] Since making the first 12 Race to the Top awards, the Department made seven additional awards to states and also made awards under the Race to the Top – Early Learning Challenge and Race to the Top – District competitions.

[8] Working with Department staff, the Reform Support Network (RSN) provided Race to the Top states with technical assistance to implement their plans. Composed of subject-matter experts in the field, the RSN led in-person and virtual meetings, webinars, and working groups with leaders and stakeholders in Race to the Top states through July 2015.

Students Are Graduating From High School at Increased Rates

Change in graduation rate between SY 2010–11 and SY 2013–14 in Phase 1 and 2 states

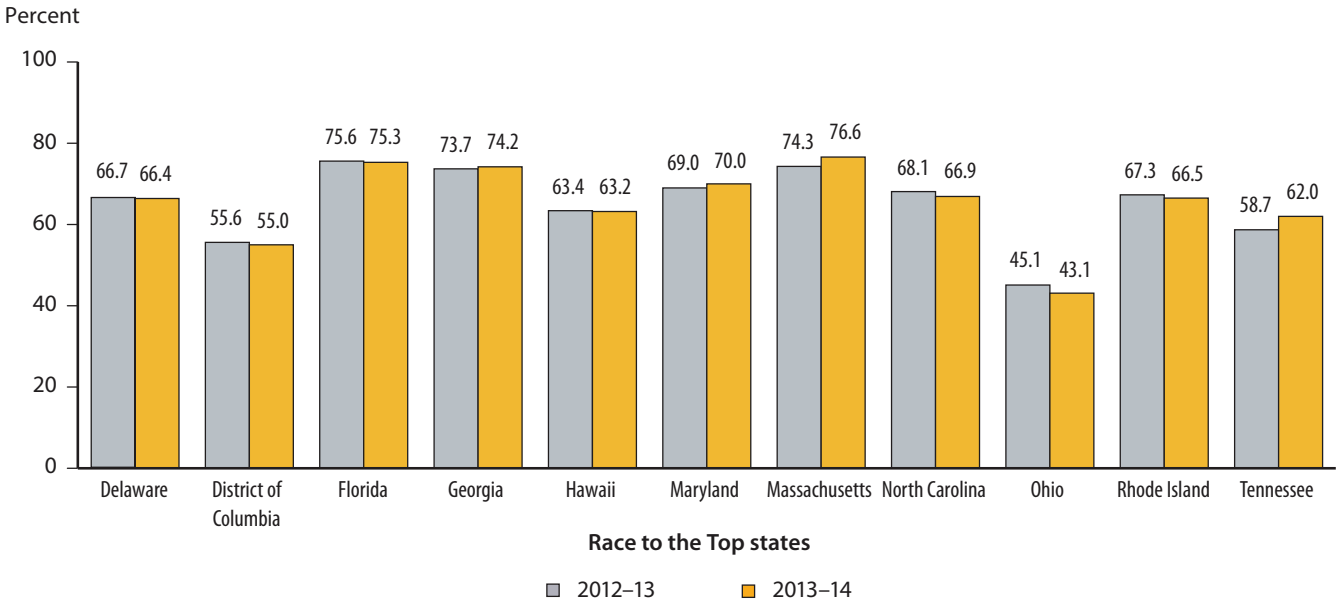


Note: The number of students in each cohort for school years 2010–11, 2011–12, 2012–13, and 2013–14, by group, are as follows: All students: 1,069,243; 1,045,900; 1,045,201; and 1,032,813. Children with disabilities: 141,847; 137,788; 139,839; and 133,817. Economically disadvantaged students: 434,490; 447,166; 468,753; and 466,948. Limited English proficient students: 45,753; 45,567; 45,450; and 46,496. White: 591,107; 574,240; 566,958; and 554,697. Black: 266,068; 255,190; 249,152; and 241,391. Hispanic: 138,260; 139,764; 149,667; and 155,688. For more information on these data, see "Data Notes" on page 58.

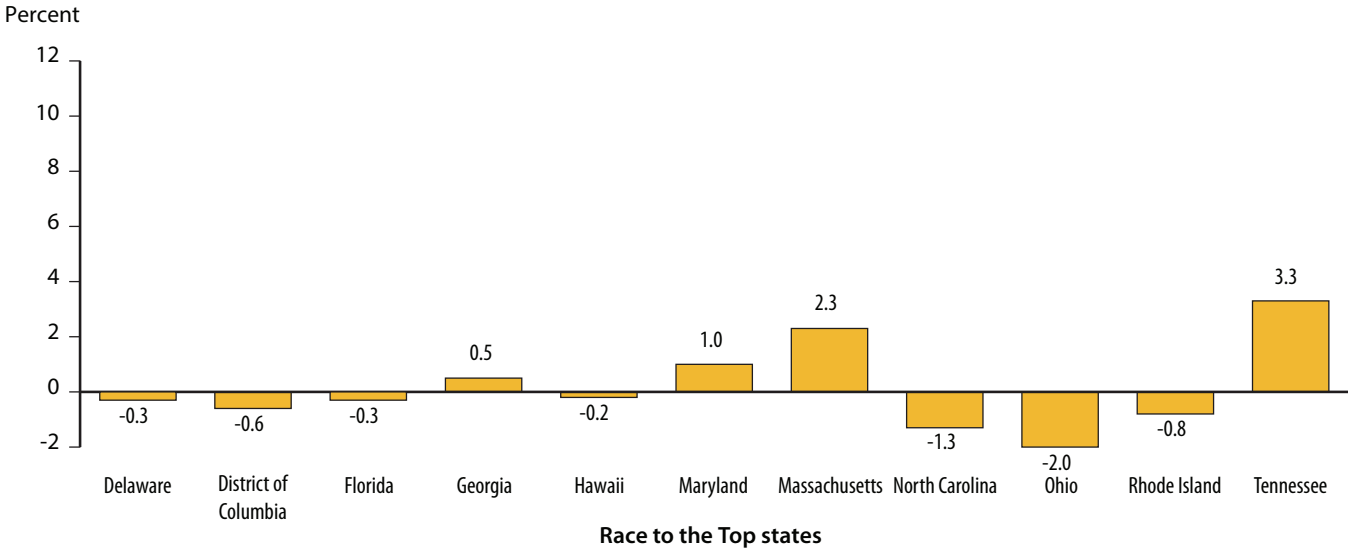
Source: State submissions to the U.S. Department of Education's ED*Facts* Reporting System.

College Enrollment Rates

Change in rates of enrollment in institutions of higher education in SY 2012–13 and SY 2013–14 in Phase 1 and 2 states



Percentage point change in rates of enrollment in institutions of higher education between SY 2012–13 and SY 2013–14



Note: New York is excluded due to missing data. Following the release of this report, Delaware updated its 2012–13 school year college enrollment data. ED accepted these updated data, and the charts have been revised accordingly. For more information on these data, see "Data Notes" on page 59.
Source: State submissions to the U.S. Department of Education's ED*Facts* Reporting System.

"The beauty of the state strategy is that everyone comes to the table for a collaborative process. State and district leaders have talked more than ever before and made decisions informed by communities of practice and voices from the field."

— Lillian Lowery,
former state superintendent of education in
Maryland and **Delaware**

Impact

Five years later, the state's role in improving teaching and learning has changed fundamentally for the first 12 Race to the Top grantees. State leaders and superintendents forged an unprecedented and wide range of partnerships with principals, teachers, local officials, nonprofits and other stakeholders to support the effective implementation of their state's comprehensive improvement agenda.

Every Race to the Top state made progress toward meeting the goals established in its application. Following are some of the ways 11 states and the District of Columbia — the grantees that received the first and largest Race to the Top grants — lived up to the promise of the goals outlined in their applications.

State capacity to support comprehensive statewide educational improvements

State education agencies (SEAs) as drivers of change. SEAs moved beyond their traditional role of monitoring district compliance to driving comprehensive and systemic changes to improve teaching and learning across the state.

Improved, more collaborative, and productive relationships between states and districts. States worked more collaboratively with districts and increased their own capacity to effectively and efficiently support districts and schools in ways that were responsive to local needs.

Better communication. States improved lines of communication with stakeholders and used a range of tools (e.g., social media platforms) to continuously gather input from teachers, parents, school leaders, stakeholders and the public to determine the additional supports needed to be successful in carrying out their work.

Online Resources to Support College and Career Readiness

engage ny

As of August 2015, **New York**'s EngageNY (www.EngageNY.org) had over 24.2 million visits from 9.4 million users worldwide, for a total of more than 131.7 million page views. The site provides in-depth resources to support teachers implementing college- and career-ready standards at each grade level. The resources include, for example, lesson plans, classroom activities and assessments to monitor student progress. The site also offers videos, newsletters, activities and other resources for families and parents to help them understand the standards and ways to support the education of their children. All of these resources are available free and online for teachers, parents and families across the country.

Source: New York State Education Department

College- and career-ready standards and instructional practices

Higher standards. All Race to the Top states recognized the value of adopting higher standards that are similar across states. Each Race to the Top state implemented challenging kindergarten through 12th-grade academic content standards aimed at preparing students for success in college and careers. With improved standards, teachers, students and parents have a clear roadmap for what students need to know and be able to do to be prepared for success.[9]

Teachers support each other to effectively implement higher standards. Teachers worked together to create tools and resources to help them understand the standards and how best to implement them in their classrooms. Hands-on, job-embedded training helped teachers transition to the new content and develop instructional tools, such as sample lesson plans and instructional videos, to translate the standards into effective classroom practices.

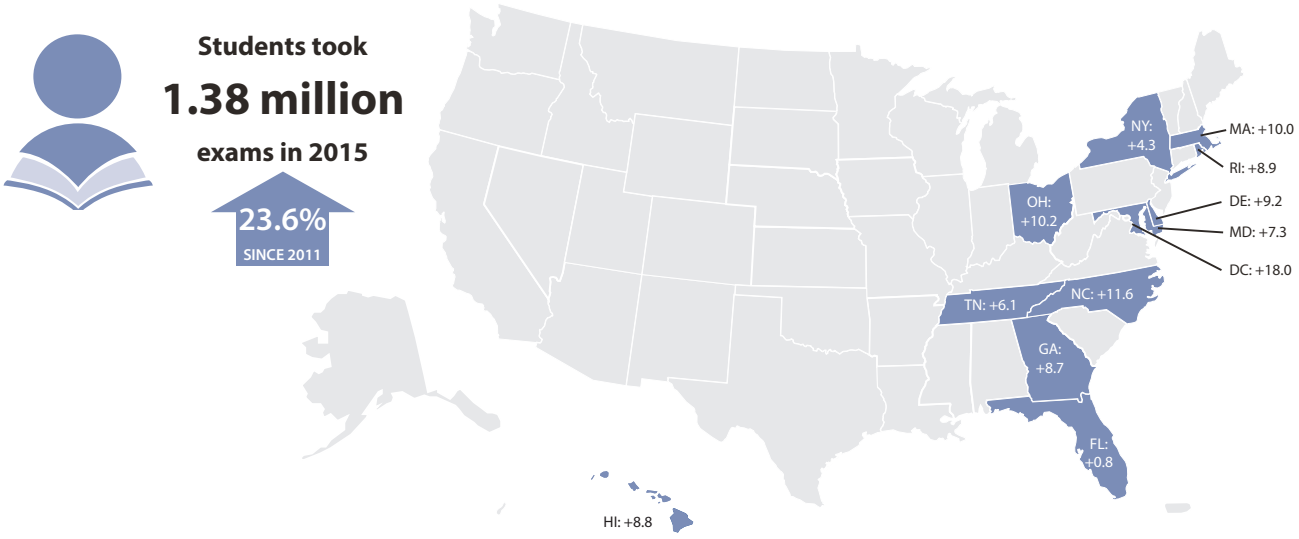
Publicly available resources. Teachers and school leaders in Race to the Top states created tens of thousands of resources aligned to college- and career-ready standards, many of which are publicly available at no cost to schools or teachers.

Monitoring student progress during the school year. Every Race to the Top state developed resources and assessment tools that teachers can use in their classrooms to monitor student progress during the school year. Rather than focus on test preparation for the statewide assessment at the end of the school year, nearly all states introduced instructional resources for the classroom that measure higher-order thinking skills, including critical thinking and complex problem-solving.

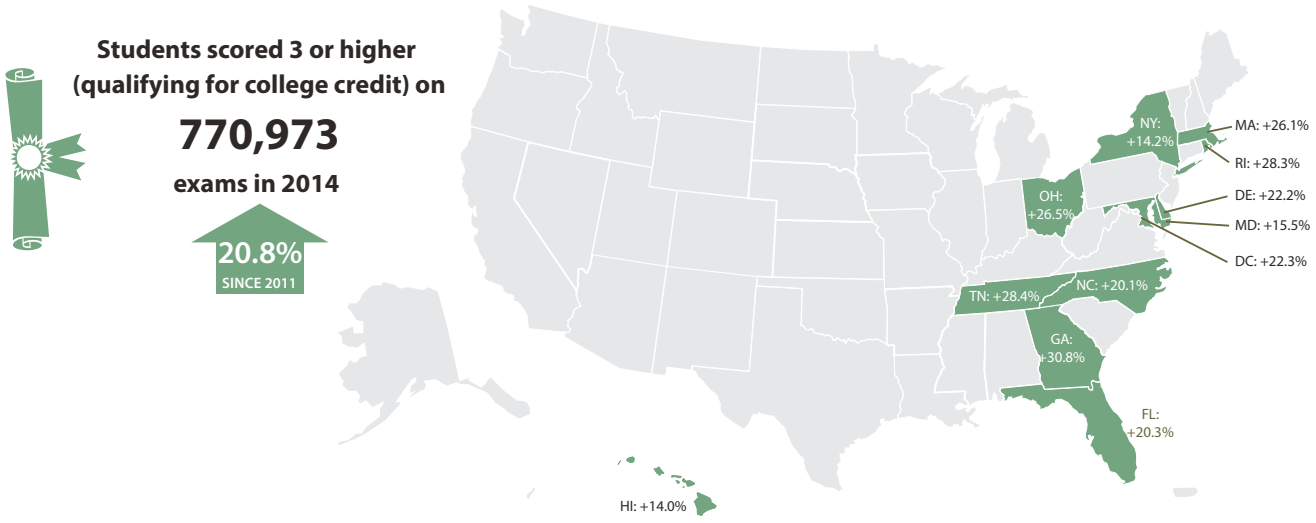
[9] A periodic review of the quality of state standards by the Thomas B. Fordham Institute found that state adoptions of new college- and career-ready standards in 2010 were rated "clearly superior" to most states' existing standards. The expert panel evaluated math and reading standards on their content, rigor, clarity and specificity. See Sheila Byrd Carmichael, W. Stephen Wilson, Kathleen Porter-Magee, and Gabrielle Martino, *The State of State Standards — and the Common Core — in 2010* (Washington, D.C.: Thomas B. Fordham Institute, 2010), http://edexcellence.net/publications/the-state-of-state-of-standards-and-the-common-core-in-2010.html.

Increased Participation and Success in Advanced Placement Courses

Percentage point increase in students enrolled in AP courses between 2011 and 2015



Percent increase in AP exam scores of three and above between 2011 and 2014



Note: More information about these data can be found on the College Board's website: http://research.collegeboard.org/programs/ap/data. Enrollment data include all subjects and grades 11 and 12. Test score data include all subjects and grades.

"My assistant principal and I worked very closely to make sure that we agreed on what is good instruction. We were on the same page, and that built teacher trust."

— Elementary school principal in **Tennessee**

Tennessee and other Race to the Top states focused on training principals to observe classroom practices and provide teachers with meaningful feedback.

Great teachers and leaders

Successes and challenges in developing new evaluation systems for teachers and principals. States and districts are working with teachers and leaders to implement and refine new evaluation and support systems designed to, among other things, provide meaningful feedback to improve teaching and learning — and guide efforts to retain and reward effective teachers and principals.

Teachers and leaders now have more information about expectations for their performance from new systems that describe the competencies and actions of effective teachers and leaders. State and district leaders are getting better at some of the most challenging aspects of implementing new evaluation systems, such as supporting principals to become instructional leaders and working and communicating with teachers to ensure measures of student learning are fair and accurate.

New career pathways for excellent teachers and leaders. In Race to the Top states, excellent teachers and leaders are being identified and offered career advancement opportunities. Teachers who want to remain in the classroom can contribute to their students and colleagues in additional ways, such as mentoring new teachers, earning endorsements to teach a hard-to-staff subject or coordinating school efforts in specialty areas such as technology.

Targeted focus on school and instructional leadership. Principals in Race to the Top states are shifting their role from administrative managers who oversee a range of school functions to instructional leaders who spend the majority of their time helping teachers improve their teaching. Race to the Top states provided principals with training and support to improve their classroom observation skills, as well as their skills in providing meaningful feedback to teachers.

Race to the Top States Provided Innovative and Individualized Professional Development

- The **District of Columbia** designed a professional learning communities program for high-performing schools to lead training for teachers at other schools on instructional approaches to implementing college- and career-ready standards. The program impacted teachers of 15,500 students across charter schools and District of Columbia Public Schools.
- **Delaware** teachers in every school met weekly for 90 minutes in professional learning communities to analyze student work and reflect on ways to modify instruction to bridge gaps identified in student learning.
- **Ohio** districts hired former principals with track records of improving student achievement to coach principals in struggling schools. Coaches bridged the gap between the district and school by providing regular feedback to principals to improve their school leadership skills.

High-quality professional development. Teachers and leaders in Race to the Top states received training and support to improve teaching and learning in their classrooms. States developed high-quality professional development opportunities in multiple formats, such as on-the job coaching, problem-solving sessions with colleagues and online learning modules. Race to the Top states are using professional development opportunities to recruit, retain and grow effective teachers and leaders in high-need schools.

Data systems and technology to improve instruction and support students

Georgia, **North Carolina** and **Florida** successfully developed highly integrated technology platforms that pull information from multiple systems to provide teachers with curricula, lesson planning tools, assessment items and much more.

High-quality, integrated data systems. Race to the Top states like Georgia, North Carolina and Florida successfully integrated multiple data systems to provide a range of tailored resources and information for different audiences (e.g., teachers, students, parents). In such integrated systems, students can access their assignments, grades and learning activities; parents can view the academic expectations of their child, and his or her school attendance and grades; and teachers and principals can access their students' data and find strategies and resources (e.g., sample lesson plans) to meet their instructional needs.

Access to data and training that help teachers improve instruction to meet their students' needs. Race to the Top states provided extensive training opportunities for teachers to increase their data analysis skills and use student performance data to customize learning for individual students. Teachers are using new data and tools to effectively and quickly check on students' progress and understanding in the course of a single session or over a few weeks.

Twenty-first century classrooms and schools. Some states used their Race to the Top funds to meet local needs for technology devices (e.g., laptops and distance-learning technology) and infrastructure improvements, including high-speed broadband connectivity and access to Wi-Fi networks.

"Our kids who live in poverty don't have the experiences to put their learning in context. By incorporating technology, their understanding of content becomes much more real."

— **Hawaii** elementary school principal

Increased access to and use of objective information on student outcomes. States made critical investments in improving systems to compile student outcome data from pre-kindergarten through the workforce, while protecting personally identifiable information. As outcome data for schools and districts become more accessible to the public, a variety of stakeholders, including parents, policymakers and researchers, will be better able to use these data to answer important questions about educational outcomes, such as "Did students make a year's worth of growth?" and "Are students succeeding, regardless of income, race, ethnicity or disability?"

"You can't work in isolation. We sit [with our SEA and]. . .we walk through our goals and we walk through next steps. Before, it appeared to be strictly about monitoring. We'd make a claim. They'd check for compliance. There is much more support now."

— **Rhode Island** high school principal on how his staff worked with the Rhode Island Department of Education

Turning around the lowest-performing schools

Local stakeholder engagement. Dramatic improvements in schools require the involvement of community members who understand local contexts and conditions, both inside and outside the school building, to help identify challenges and design solutions. States, districts, teachers, school leaders and community stakeholders are working together to implement strategies to improve the learning environments in their lowest-performing schools and provide services to meet students' academic and nonacademic needs.

New performance management approaches. States are using performance management approaches to help districts support effective interventions in their lowest-performing schools. These approaches help states and districts identify problems, set goals to solve them and use data to track progress.

Creating networks among the lowest-performing schools. States like Tennessee, North Carolina and Massachusetts created networks of their lowest-performing schools that improved supports for teachers and school and district leaders, and resulted in improved student outcomes. Race to the Top states also targeted substantial additional resources and innovative approaches to improve student outcomes in these schools.

Creating Networks of Schools and Partnering with Communities

Massachusetts students in wraparound zone schools — schools that incorporate health and social services for students and families — performed better on the state assessment in English/language arts and mathematics than students in other schools with similar achievement trends, particularly third- and fourth-grade students. Students with limited English proficiency demonstrated strong academic results after the third year. Ten of the 15 schools that began providing wraparound services in 2011 improved student outcomes and were no longer listed as low-performing schools at the end of the 2013–14 school year.

Source: American Institutes for Research, "Evaluation of the Wraparound Zones Initiative," submitted to the Massachusetts Department of Elementary and Secondary Education, June 2015.

The work continues

Americans have always viewed education as the path to a better future. Federal investments in education are based on the premise of equity — equity of opportunity, access and resources. In today's global economy, an individual's education can be directly correlated to the quality of life he or she will live in the future. While federal funding has ended for the first 12 Race to the Top grantees, these states, along with their partners, are continuing their efforts to redesign school systems so that every student has access to a high-quality education and the opportunity to graduate better prepared to make his or her dreams a reality. Flexibility from some of the requirements of the *Elementary and Secondary Education Act of 1965*, as amended (*ESEA*) allows Race to the Top states to continue the work they began under Race to the Top toward higher standards, supporting their lowest-performing schools, and implementing teacher and principal evaluation and support systems.[10]

The first two phases of Race to the Top produced powerful lessons. Overwhelmingly, state leaders described the push for urgent change under Race

[10] In September 2011, the Department invited each SEA to request flexibility regarding some specific requirements of the *Elementary and Secondary Education Act of 1965,* as amended (*ESEA*) in exchange for rigorous and comprehensive state-developed plans designed to improve educational outcomes for all students, close achievement gaps, increase equity and improve the quality of instruction.

"**Georgia's** Race to the Top application articulated a clear vision for the future of education in our state. Because of the unique level of collaboration and broad spectrum of partners utilized across the state, Georgia has been able not only to sustain our progress, but improve and expand upon it. Students will be reaping the rewards of these reforms for years to come, but there is still much work to be done."

— Governor Nathan Deal, **Georgia**

to the Top as a major accelerator to move forward with bold improvement plans. But that is not to minimize the challenges and difficulties of pursuing ambitious change in such a short time. Many of the individuals who implemented Race to the Top informed this report and noted that their states were not initially well positioned to make rapid changes. State leadership had to build much stronger communication networks with districts and work more collaboratively than was typical in the past. And, as in any innovation effort, some elements posed significant challenges, such as aspects of teacher and leader evaluation systems and improving data systems.

Right now, perhaps the legacy of Race to the Top can best be found in the way that teachers, principals, administrators and others are working more urgently and collectively to solve their most pressing challenges. Teachers are actively seeking the best resources they can find to prepare their students to meet rigorous college- and career-ready standards, and to lead fulfilling lives. Superintendents, school boards and state officials are wrestling with ways to refine their teacher and principal evaluation systems so that they reflect the elements most essential in identifying effectiveness in the classroom. Principals in the lowest-performing schools are working to put in place the right conditions to ensure that their students grow and thrive.

Today and into the future, the country is working toward the goals the President set out to achieve when he first announced the vision for Race to the Top: Better standards. Better teaching. Better schools.

Introduction

In 2009, President Barack Obama made a historic investment in education through the Race to the Top program. With $4 billion provided by Congress as part of the *American Recovery and Reinvestment Act (ARRA),* the U.S. Department of Education (Department) launched the Race to the Top grant competition to spur and reward innovations that improve teaching and learning and prepare students for a globally competitive economy.[1]

The Race to the Top competition was designed to encourage and reward states with a track record of success in establishing the conditions for positive educational changes. Even before submitting their Race to the Top applications, states passed laws and changed policies to facilitate and support improvements in teaching and learning. Forty-six states and the District of Columbia chose to submit Race to the Top applications and developed innovative plans to improve education for students in their state. Each state that applied for a Race to the Top grant created a comprehensive plan around four core areas:[2] establishing high, challenging learning standards aligned with readiness for college and careers, and transforming instructional practices to enable students to meet the more challenging standards; developing and supporting effective teachers and leaders; enhancing data systems and using technology to inform and enhance instruction; and turning around the lowest-performing schools. In order to achieve sustainable and long-lasting improvement in classrooms, schools and districts, Race to the Top plans focused on breaking down silos that, in the past, led to fragmented and isolated educational improvements in favor of making comprehensive, coherent and interconnected improvements that addressed the complex interplay among these four areas.

The Race to the Top competition was based on the premise that there is no single path to improving educational outcomes and expanding opportunities for students to excel. Instead, states were expected to build on the good work they already had done to improve education and put forward bold plans to bring to scale, statewide, practices successfully implemented at the local level. States with records of

[1] Sections 14005 and 14006 of the *American Recovery and Reinvestment Act of 2009 (ARRA)* (Public Law 111-5), as amended, authorized the Race to the Top program, referred to in *ARRA* as the State Incentive Grant Fund.

[2] These four core areas were referred to as "assurance areas" in the Race to the Top Notice Inviting Applications. See Department of Education, *Overview Information; Race to the Top Fund; Notice Inviting Applications for New Awards for Fiscal Year (FY) 2010; Notice* (Federal Register, Vol. 75, No. 71, 2010), http://www2.ed.gov/legislation/FedRegister/announcements/2010-2/041410a.pdf.

success in improving teaching and learning could tap into the enthusiasm and creativity from constituents who had supported previous improvement efforts and use that support to drive systems-level change and disrupt the status quo. Race to the Top rewarded states for enlisting their districts and key stakeholders (e.g., local officials, nonprofits, institutions of higher education, unions) in designing and implementing their comprehensive plans. The idea was that by working together, support for change and innovation would be built across key constituencies and sectors and enable states to push forward bold, and challenging, initiatives.

In addition, the Race to the Top competition focused on the state education agency (SEA) as the driver for changing the education system in the state. This was a new role for some SEAs that, prior to Race to the Top, focused primarily on ensuring districts and schools complied with state and federal education laws. Many states, including some that did not receive Race to the Top awards, reported that the consensus-building process to prepare their applications stimulated conversations that were helpful in moving forward with their efforts to improve teaching and learning in their state.[3]

Finally, Race to the Top used transparency to advance knowledge about improving education and allow states to learn from each other. States' Race to the Top applications and reviewers' comments were posted online to be examined by the public. Publicly posted annual reports on progress, technical assistance resources, and amendments provided information for the media and the public to evaluate and for researchers to analyze.

In 2010, 11 states and the District of Columbia received awards ranging from $75 million to $700 million to make systemwide education improvements for teachers and students.[4] (See table on next page.)

Over the past five years, Race to the Top states and districts made substantial progress toward achieving the goals outlined in their Race to the Top applications. Teachers and leaders have better methods and opportunities to improve teaching and learning, including model lesson plans and instructional resources and ongoing, job-embedded coaching. Online tools, such as data dashboards, allow teachers to see how their students are progressing at any given moment in time. Robust induction programs support new teachers; and experienced, excellent teachers have career ladders and leadership opportunities outside the classroom. Students are being held to more rigorous standards that will prepare them for success in college and careers, and teachers are using new, richer data from classroom assessments to tailor student instruction. Teachers, leaders, parents, policymakers and researchers have more information about what does and does not work in classrooms. And states and districts are working collaboratively to improve the supports for their lowest-performing schools, target significant resources at their improvement and prepare school leaders for success in improving student outcomes.

In addition, the role of the SEA has changed in Race to the Top states. SEAs no longer focus solely on enforcing compliance with state and federal laws. Instead, SEAs work in partnership with their districts and schools to improve teaching and learning. For example, states created technology platforms to bring thousands of high-quality local instructional resources to all teachers in the state, rather than leave districts to identify exemplars on their own. States also developed new data-driven performance management systems and professional development opportunities to help districts support their lowest-performing schools. Through the process of developing and implementing

[3] Ann Webber, Patricia Troppe, Anthony Milanowski, Babette Gutmann, Elizabeth Reisner, and Margaret Goertz, *State Implementation of Reforms Promoted Under the Recovery Act* (NCEE 2014-4011) (Washington, D.C.: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education, 2014).

[4] Since making the first 12 Race to the Top awards, the Department made seven additional awards to states and also made awards under the Race to the Top – Early Learning Challenge and Race to the Top – District competitions.

Students, Teachers, and Principals Participating in Race To The Top States

Award Size, Students, Teachers and Principals Served

State	Award Size	K–12 Students (% of all students)	Teachers (% of all teachers)	Principals (% of all principals)
Delaware	$ 119,122,128	128,467 (99%)	8,896 (99%)	448 (98%)
District of Columbia	$ 74,998,962	60,145 (91%)	5,230 (74%)	186 (81%)
Florida	$ 700,000,000	2,514,365 (94%)	166,234 (92%)	2,844 (92%)
Georgia	$ 399,952,650	692,526 (41%)	44,732 (40%)	2,404 (41%)
Hawaii	$ 74,934,761	175,456 (95%)	11,967 (94%)	255 (88%)
Maryland	$ 249,999,182	649,296 (78%)	46,217 (78%)	1,167 (81%)
Massachusetts	$ 250,000,000	640,596 (69%)	48,840 (66%)	1,280 (68%)
New York	$ 696,646,000	2,317,192 (87%)	177,132 (87%)	4,175 (86%)
North Carolina	$ 399,465,769	1,453,468 (97%)	97,534 (97%)	2,482 (97%)
Ohio	$ 400,000,000	931,474 (55%)	58,247 (57%)	2,034 (57%)
Rhode Island	$ 75,000,000	137,370 (99%)	11,313 (99%)	499 (99%)
Tennessee	$ 500,741,220	967,800 (100%)	70,453 (100%)	3,769 (100%)

Note: All data are as of June 2014.

Total Student and Educator Participation

10,668,155
K–12 Students

746,795
Teachers

21,543
Principals

their Race to the Top plans, SEAs changed the way they communicated and worked with their districts, principals, teachers, local officials, nonprofits, union leaders, charter school operators, parents and students. SEAs built this unprecedented range of partnerships to help support and ensure effective implementation of their comprehensive improvement plans.

The accomplishments in Race to the Top states and districts demonstrate what can happen when stakeholders come together to meet challenges with determination, courage and vision. States did not and could not implement their plans alone. External partners, including nonprofits, unions, businesses and philanthropic organizations, provided critical support to augment state and district capacity to change previous practices and spur innovation.

There is more work to be done based on lessons already learned, and those that will be revealed over time with further research and data. While federal funding and involvement with initiatives has ended, Race to the Top states from Phases 1 and 2, together with their partners, continue the hard work of improving education to meet the 21st-century needs of students and teachers.

"**Georgia**'s Race to the Top application articulated a clear vision for the future of education in our state. Over the last five years, by leveraging strong leadership on the state level, we have executed on that vision, resulting in a dynamic, statewide teacher and school leader evaluation system, higher academic standards, more rigorous assessments, and a robust data system to drive improvement. Because of the unique level of collaboration and broad spectrum of partners utilized across the state, Georgia has been able to not only sustain our progress, but improve and expand upon it. Students will be reaping the rewards of these reforms for years to come, but there is still much work to be done. We remain unwavering in our commitment to improve educational opportunities and outcomes for all Georgia students."

— **Georgia** Governor Nathan Deal

About this report

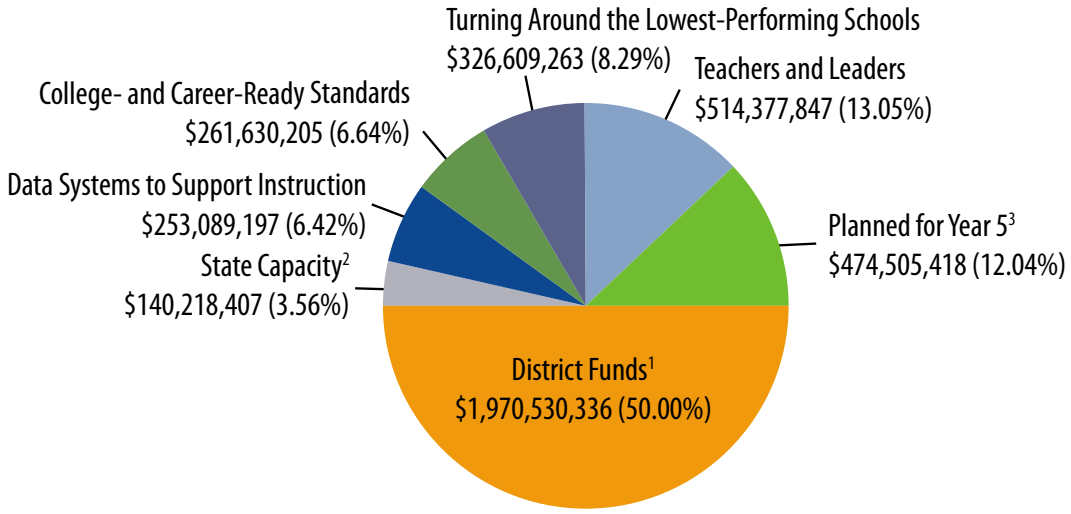
Race to the Top's success ultimately must be measured by its long-term impact on student learning. Because simultaneous change in multiple systems takes time, it is too early to make that determination of success now. However, it is not too early to learn from the positive achievements of and challenges faced by Race to the Top states. This report focuses on some of the accomplishments of Race to the Top states and highlights examples of key practices and lessons learned during implementation. The content of this report draws upon information provided through a new performance management approach implemented with Race to the Top states that included monthly calls between state education leaders and staff at the Department, online data displays, annual on-site performance reviews and annual progress reports detailing the Department's assessment of each state's performance. Finally, Race to the Top states shared their reflections on progress and lessons learned through narrative submissions at the end of the four-year grant period. The interactions between state education leaders and Department staff focused on state progress toward meeting the targets and goals established in each state's plan, in addition to traditional compliance reviews. The approach required states to continuously evaluate the results of their efforts to improve teaching and learning and consider if they needed to adjust strategies to achieve their desired outcomes. In addition, the approach allowed the Department, grantees and the public to follow grantee progress in implementing comprehensive education plans and meeting ambitious goals to improve teaching and learning.

Alongside the performance management approach, the Department worked with the Reform Support Network (RSN) to provide states with results-oriented, differentiated and responsive technical assistance driven by state needs and, in part, by the annual review process.[5] Through in-person and virtual meetings, webinars, and working groups, the RSN brought together state leaders, including chief state school officers, their staff, and key stakeholders such as principals, union leaders and teacher leaders, as they implemented their plans. State leaders and staff met with their peers in communities of practice to share challenges and brainstorm solutions. In June 2015, leaders in Race to the Top states reported that the top three benefits of this approach to providing technical assistance were that it increased their access to expertise, resources and support; provided a means to connect with colleagues doing similar work in other states; and met their need to find solutions to key challenges. Links to select RSN publications are included in this report to highlight Race to the Top state experiences that may be helpful for all states in their efforts to improve instruction and educational opportunities for all students.

[5] Working with Department staff, the Reform Support Network (RSN) provided Race to the Top states with technical assistance as states implemented their plans. Composed of subject-matter experts in the field, the RSN led in-person and virtual meetings, webinars, and working groups with leaders and stakeholders in Race to the Top states through July 2015.

The Race to the Top investment in education

Throughout the grant period, Race to the Top states maintained detailed budgets for all state-level projects described in their applications and Scopes of Work.[6] Under *ARRA*, every state was required to subgrant 50 percent of the total grant award to districts that participated in the state's plan for local implementation of Race to the Top activities.[7] Each state reported expenditures to the Department as of December 31, 2014. States will submit to the Department information on final state-level expenditures through September 30, 2015, by December 29, 2015.



Note: Expenditure data is state-reported as of December 31, 2014.

[1] District funds – Every Race to the Top state, except Hawaii, requested and received approval from the Department to extend some district spending through summer 2015. District funds spent in Year 5 are not captured in "Planned for Year 5."

[2] State Capacity – In most instances, the "State Capacity" expenditures category includes funds to manage grant implementation and performance across state agencies and districts. However, some states also included other kinds of projects in this category; for example, Georgia's "State Capacity" expenditures include the Innovation Fund, through which it competitively made awards to innovative school-based programs and excellent teachers throughout the state.

[3] Planned for Year 5 – Every Race to the Top state, except Hawaii, requested and received approval from the Department for a no-cost extension to continue implementing projects through summer 2015. Funds in this category were distributed across all of the state-level funding areas displayed above.

States used state-level funds to support districts. In addition to the 50 percent of the total grant award subgranted to districts, many states designed their state-level projects to distribute additional funds to districts. For example, New York competitively distributed nearly $80 million of its state-level "Teachers and Leaders" funds to districts to implement their plans to develop, implement or enhance teacher recruitment, development and retention.

States supported work across initiatives. States assigned project expenditures to one of the budget categories; however, many projects supported multiple categories. For example, a project in the "Turning Around the Lowest-Performing Schools" category may have been designed to support teachers in low-performing schools as they transition to college- and career-ready standards.

[6] All states implemented projects related to science, technology, engineering and mathematics (STEM), but these projects are not reported separately in the expenditures chart included in this report. STEM project expenditures are distributed across all of the state-level funding areas displayed in the pie chart. For example, Maryland's elementary STEM certification project is reflected in the "Teachers and Leaders" expenditure amount because this teacher certification initiative was also part of its plan for promoting equitable access to effective teachers.

[7] Participating districts are districts that chose to work with the state to implement all or significant portions of the state's Race to the Top plan, as specified in each district's agreement with the state. Each participating district that received funding under *Title I*, Part A received a share of the 50 percent of a state's grant award that the state must subgrant to districts, based on the district's relative share of *Title I*, Part A allocations in the most recent year at the time of the award, in accordance with section 14006(c) of *ARRA*.

State Capacity to Support Comprehensive Statewide Educational Improvements

Race to the Top provided SEAs with an opportunity to set a vision for improving teaching and learning across the state and support all the individuals in their education system to act on that vision in ways that made sense at the local level. SEAs that applied for a Race to the Top grant had to articulate a comprehensive and coherent plan to improve student achievement and secure buy-in and commitments from many stakeholders, including the governor, the state board of education and local school districts that would work with them to implement the plan.

Many SEAs had never attempted to work this closely with their districts to implement specific initiatives to improve teaching and learning before Race to the Top. In many states, a teacher or district leader's experience with its SEA had been a one-way street. Top-down policy memos or directives on training requirements may have been the only ways the agency in charge of overseeing education in their state communicated with teachers. District leaders may have had little interaction with their SEA beyond notifications that funds were available for their schools or that reviews and audits would be conducted to ensure that rules were being followed.

While SEA staff had the skills and knowledge to ensure compliance with federal and state laws and regulations (e.g., tracking compliance with timelines and holding districts accountable for adhering to established processes), different skills were needed to effectively implement their Race to the Top plans. Forging new, closer partnerships with their local education agencies (LEAs), SEAs built the knowledge and skills of their staff and recruited new staff to drive comprehensive and collaborative change in their education system. SEA staff had to, for example, work in partnership with district staff to support their lowest-performing schools and improve data systems to meet the needs of teachers and leaders. Rather than receiving updates from district staff on a monthly or quarterly basis, SEA staff often needed to work side-by-side with district

staff on an ongoing basis to identify and solve practical implementation issues. When LEAs and schools encountered challenges, Race to the Top SEAs responded by seeking creative solutions to meet local needs. For example, Georgia successfully made hundreds of tweaks in its statewide data system based on teacher feedback during the first years of use and continues to regularly receive and act upon teacher feedback in developing new data reports and making its data system easier to use. Delaware and Tennessee had initially planned to conduct large-scale training sessions to help teachers transition to new standards. However, after soliciting feedback from teachers, they changed their plans and brought school teams together for action planning and used the talents of their own excellent teachers, rather than outside consultants, to provide training.

"There is now heightened awareness of student performance beyond annual data points. Race to the Top states are positioned to accelerate the college and career readiness of their students while promoting educational equity across their states."

— Lillian Lowery, former state superintendent of education in **Delaware** when the Race to the Top grant was awarded and in **Maryland** in Year 3 of the Race to the Top grant

Some states reported that the expanded responsibilities of SEAs helped them attract new talent who brought fresh ideas on ways to develop collaborative relationships with districts and communicate effectively with local leaders and teachers. For example, Massachusetts was successful in hiring former superintendents to support implementation of Race to the Top initiatives. These former superintendents had positive track records of working at the local level to support districts and understood the challenges of translating state policies into practice at the local level.

SEAs also were challenged to increase collaboration within their agencies between offices that traditionally functioned independently and were unaccustomed to sharing information or expertise. SEA leaders had to break down these internal barriers and establish a culture in which information was freely shared. For example, SEAs found the most success in setting expectations around support for great teachers and leaders when they connected staff responsible for their curriculum work and staff responsible for their teacher effectiveness work, irrespective of whether staff members who were responsible for this work were in different offices.

Depending on their specific needs and circumstances, SEAs took different approaches to ensuring coordination and collaboration across work in Race to the Top's four core areas. Some states, such as Hawaii, Delaware and Massachusetts, created a separate office or designated an existing office to plan and coordinate Race to the Top initiatives across different offices. Other states created separate offices dedicated to meeting a specific priority. For example, some states created a "turnaround office" to marshal resources to meet the needs of students attending their lowest-performing schools. Other states embedded the work of their comprehensive plans in the ongoing work of existing offices.

Building state capacity to partner with key stakeholders

In order to maintain stakeholder commitment to their vision of improving student achievement, Race to the Top states needed teachers, parents, school and district leaders, policymakers, and the school community to remain invested in and supportive of change. It was not enough to have a vision statement; states had to consistently communicate their vision for improving teaching and learning to all of their stakeholders and explain how the individual initiatives fit together.

For example, in Hawaii, after a challenging first year in which the state struggled to begin implementing its approved Race to the Top plan, the state realized it needed to deliver clear and succinct messages to help teachers, parents, leaders, and other stakeholders understand how the multiple initiatives worked together to improve teaching and learning. With stakeholders from across its education system, the state created a new Strategic Plan with its state board of education and brought together stakeholders from across its education system to identify strategies to accomplish three specific goals: student success, staff success and successful systems of support. Similarly, in Tennessee in 2010, former Commissioner Kevin Huffman articulated a vision for Tennessee to be the fastest-improving state in the nation by 2015 and led a statewide effort to achieve key student goals to get there, creating the driving force of Tennessee's agenda. To accomplish its goals, the Tennessee Department of Education focused its efforts on increasing student outcomes and measuring its progress toward that goal each year.

States put in place new two-way communication tools to gather feedback from teachers so the SEA could provide better supports. For example, after implementing its Tennessee Education Acceleration Model (TEAM) evaluation system, the state gathered data and survey feedback from over 25,000 teachers. Based on this feedback, Tennessee made several important changes to its teacher evaluation system, including increasing the number of coaches available to support evaluation activities in schools and districts, and revising the evaluation rubric used to assess instructional practices.

Tennessee and Delaware significantly changed their approaches to supporting teachers' transition to college- and career-ready standards in response to teacher and principal feedback. In Tennessee, the SEA had planned to hire contractors to provide professional development to help with the transition, but given feedback from teachers, the SEA shifted its approach and instead recruited and hired high-performing teachers (based on student outcomes) to

develop and lead the training sessions. In Delaware, district superintendents identified the standards transition early in the Race to the Top grant period as a high priority because of uneven quality and rigor in the standards' implementation. In response, Delaware's SEA launched a program to bring professional development and district-level action planning to district leadership teams. Sessions focused, for example, on teacher training, building a college- and career-ready culture, and translating standards into concrete instructional best practices. To ensure that all stakeholders, from parents and students to teachers and school administrators, had information about the state's improvement efforts, Florida created a call center to answer questions about Race to the Top and other ongoing education initiatives. The call center received over 20,000 inquiries from July 2014 through January 2015.

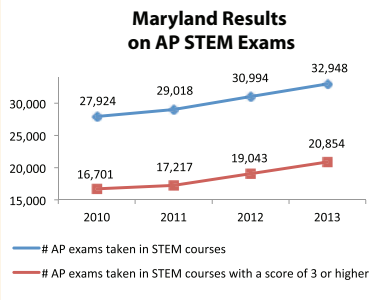
"Never has it been easier to connect with peers beyond the teachers' lounge in a way that can actually change how teachers do their jobs."

—Michael Sponhour, executive director of communications and outreach in **Ohio**, on the state's use of Twitter to communicate with teachers

The majority of Race to the Top states **reported** to the RSN that they are using or expanding their use of social media communication to keep stakeholders engaged and informed. Ohio, for example, embraced Twitter to communicate with teachers, principals and district leaders during its annual state conference in 2012. "One of the keys to success on Twitter is tweeting a lot — five to seven times a day — morning, noon and at night," said Michael Sponhour, executive director of communications and outreach for the Ohio Department of Education (ODE). Ohio measures its success on Twitter by the number of tweets that are "retweeted" by its followers; about 70 percent of ODE's tweets are retweeted, he said. Ohio's SEA also supported a local effort led by a public radio reporter and teacher to host weekly Twitter discussions on the "#ohedchat" handle. The weekly discussions provide teachers with an opportunity to communicate with peers across the state on their experiences with teacher evaluation requirements, for example. An RSN case study, *Using Social Media to More Effectively Communicate Reform Efforts*, describes Ohio's efforts in more detail.

SEAs also developed and strengthened partnerships with local stakeholder groups such as teachers' unions and institutions of higher education to accomplish their goals. For example, the Georgia Alliance of Education Agency Heads (which includes representatives from all of the state's education-related agencies, from early learning to postsecondary education) used its expertise and influence to build support for Race to the Top initiatives around the state and helped Georgia garner support to sustain its efforts beyond Race to the Top. The state reported that the Alliance was critical in establishing roles and responsibilities to act quickly on Georgia's data system plans to connect multiple large data sets to improve its ability to answer statewide questions about student outcomes. With the support of the Alliance, Georgia secured over $3 million in state funding to continue the data systems work started under Race to the Top.

Building State Capacity and Partnerships to Improve STEM Education



Careers in science, technology, engineering, and mathematics (STEM), such as computer science and biomedical engineering, are growing at a faster rate than other fields.[1] States demonstrated their commitment to increasing the number of students prepared for STEM careers by coordinating efforts across their Race to the Top initiatives. States, working with the business community and other partners, created STEM resources for students and teachers, increased the number of STEM teachers, and supported teachers already in STEM classrooms.

Maryland incorporated STEM throughout its Race to the Top plan to ensure that teachers and students had the resources and support they needed to meet the changing demands for jobs in today's global economy. For example, Maryland gathered input from its business community, colleges and universities to develop STEM standards of practices and supported problem-based STEM programs at low-performing middle and high schools.

Maryland's Comprehensive Approach to STEM Education

Implementing science standards to prepare students for college and careers:

- Maryland was the first State to develop specific STEM Standards of Practice, which detail the skills and knowledge students should know. Nearly 1,000 stakeholders, including Maryland's business community, colleges and universities, and school districts, provided input on the standards. (See http://www.marylandpublicschools.org/w/RWCRTTT2014.pdf for reference.)

High-quality STEM resources and job-embedded PD for educators:

- Maryland created a new STEM network including an online STEMNet hub to give teachers access to cutting-edge STEM resources, including connections to STEM professionals and a virtual professional learning community.
- Educators created STEM lessons, units, and other resources aligned to Maryland's STEM Standards of Practice, which are now available online for teachers to bring to their classes.

Ensuring access to highly effective STEM teachers:

- Districts distributed compensation incentives to attract and retain highly effective STEM teachers in high-poverty, high-minority schools.

Ensuring all students have access to STEM content:

- Project Lead the Way helped establish a rigorous, problem-based STEM program for middle school students in low-performing schools to foster learning in math and science.
- The State established STEM Innovation Schools (at least one in each LEA) to try new STEM materials for teachers and students, including career exploration resources and workplace experience opportunities.

Preparing more STEM teachers:

- Maryland created new credentials for aspiring and current elementary teachers who want to specialize in STEM, including an Elementary STEM teacher certificate and a STEM Instructional Leader endorsement.
- Twelve teacher preparation programs have adjusted their elementary education programs to emphasize the integration of STEM content across subjects.

[1] U.S. Department of Commerce, Economics and Statistics Administration, *STEM: Good Jobs Now and for the Future* (Washington, D.C.: U.S. Department of Commerce, 2011), http://www.esa.doc.gov/sites/default/files/stemfinalyjuly14_1.pdf.

Source: Maryland State Department of Education

Transforming Rural Education in Ohio

Ohio's comprehensive plan addressed the unique needs of students and teachers in the rural Appalachian region of the state. To reduce the isolation often felt in rural and small districts, the Ohio Appalachian Collaborative worked with 74 schools across 21 rural districts serving 14,000 students. Districts in the Collaborative implemented a plan that focused squarely on increasing students' college readiness. Through training and collaboration sessions, teachers across the 21 districts developed skills to track student progress toward college readiness, use data to modify their instruction to meet students' needs, and design and implement higher-level course content. The Collaborative's efforts are generating results. The number of high school students in college-level courses grew by 186 percent over four years. From 2010 to 2014, student performance in reading and mathematics increased in grades three, four and eight, including a 9.2 percent increase in eighth-grade mathematics.

Building state capacity to support districts and schools based on local needs

With approximately half of the Race to the Top funds, nearly $2 billion, going directly to districts, SEAs focused on building capacity to effectively and systematically support districts and schools in their improvement efforts. SEAs supported districts to collect and analyze data to assess progress in meeting state and local goals and established new routines to communicate and receive better information from their districts about how things were working on the ground. For example, the SEA in Rhode Island formed cohorts of district leaders to meet with state leaders and with each other quarterly — a process that promoted peer learning to resolve key implementation issues. District progress reports became a component of state program meetings during which senior leaders discussed the progress of projects explicitly in terms of the district's experience. The SEA made adjustments based on this feedback. For example, the Rhode Island Department of Education altered its communication strategies for a number of state initiatives based on feedback that previous communication was confusing. Through this process, state and district leaders reported they experienced "a culture shift," as they "moved from a compliance-oriented approach to an approach that emphasizes systematic reflection, collaboration, problem-solving and ongoing communication between [the Rhode Island Department of Education] and our districts." State leaders in every Race to the Top state interacted with district leaders, principals and teachers regularly to better understand the realities of implementation and create supports to meet local needs.

In these ways, district experiences defined state-level implementation efforts and supports, and SEAs learned much more about district successes and challenges. In many states, the communication strategies established under Race to the Top were so useful to state leaders that they continued them after the end of their Race to the Top grant.

Building state-level systems and measures to track progress

Each participating district in Race to the Top states signed a memorandum of understanding with its SEA outlining the specific activities it would conduct, as well as the benchmarks that its SEA would use to monitor progress and make needed adjustments along the way. Race to the Top states made it a priority to ensure both quality and progress toward meeting their organizational goals and established a performance management system that used information from their districts and schools to track progress and course-correct their SEA plans. Massachusetts and Delaware created specific

"We really keep coming back to three questions: Are we doing what we said we would do? Are we doing it well? Is it making a difference?"

— **Delaware**'s former Chief Performance Officer

units within their state departments of education and used real-time data to assess whether projects were moving forward and producing quality results.

Every state collected feedback from teachers through surveys, focus groups and dedicated inboxes, for example, to understand the impact of their work and allow project managers to identify and resolve issues quickly. The Delaware Department of Education identified over 40 metrics to assess state and district progress toward meeting their goals, for example, to increase Advanced Placement (AP) class enrollment and close achievement gaps. The state also partnered with districts to identify local metrics, such as attendance goals or participation in honors courses, which state and district leaders analyzed during biannual performance reviews. The regular review of district performance on each metric provided district leaders with meaningful feedback on their progress, and helped them determine which initiatives were effective and which needed to be eliminated or improved. Delaware's continuous improvement process depended on these routines. "We really keep coming back to three questions: Are we doing what we said we would do? Are we doing it well? Is it making a difference?" said Delaware's former chief performance officer. Delaware, Hawaii, Massachusetts and Tennessee shared their experiences in an RSN case study, *Performance Management: Setting Outcomes and Strategies to Improve Student Achievement*.

Looking ahead

In order to make systemic changes to improve teaching and learning across their states, SEAs in Race to the Top states took responsibility for fundamental change in their education systems — a new role for most SEAs that required them to move beyond their traditional compliance role. To implement their comprehensive plans, SEAs had to establish common expectations and collaborative relationships with their districts, schools, teachers and other key stakeholders. State education leaders also implemented new approaches to collect meaningful and reliable data, assess progress toward state goals, and adjust plans based on data and information from the field. As districts and schools took on the responsibility of implementing work plans to meet district goals, SEAs saw the benefits of new approaches to district collaboration, communication and using feedback from key stakeholders to inform their decisions. Now, many SEA leaders in Race to the Top states report that they are more attuned and able to meet the needs of their districts and are unlikely to return to a purely compliance-based approach to working with their districts.

College- and Career-Ready Standards and Instructional Practices

What are academic content standards?

Academic content standards describe what students should know and be able to do in each grade. An example of one third-grade reading standard is for students to "decode multi-syllable words." Teachers use their professional expertise, teaching skills and instructional resources to help students master the standard.

In 2009, nearly every state acknowledged the need to raise standards to ensure that all students graduate from high school with the skills and knowledge necessary to succeed in college and careers, regardless of where they live. Prior to that time, insufficient attention had been given to what colleges, workforce training programs and employers expected of high school graduates. In many places, students entered college unprepared and had to spend time and money taking remedial courses before earning credits toward a degree or credential.[9] Many training programs and employers expressed frustration with high school graduates unprepared to enter the workforce or high-skilled jobs.[10]

Race to the Top states chose to adopt college- and career-ready standards that are similar across states to align their expectations for students to the demands of college and the workplace. States led the effort to develop college- and career-ready academic content standards even before Race to the Top was announced.

Beginning in 2008, the state-led effort included governors and state commissioners of education from 48 states, two territories, and the District of Columbia and was informed by the best state standards already in use and the experiences of teachers, school administrators, content experts, state leaders and the public. From the beginning, state and local officials and educators took responsibility for adopting and implementing the standards, and for making decisions about how the standards are taught, how the curriculum is developed, and what materials are used to support teachers in helping students meet the standards.

[9] National Center for Education Statistics (NCES), *First-Year Undergraduate Remedial Coursetaking: 1999–2000, 2003–04, 2007–08* (NCES 2013-013). (Washington, D.C.: NCES, Institute of Education Sciences, U.S. Department of Education, 2013), http://nces.ed.gov/pubs2013/2013013.pdf. One of every five first-year undergraduate students reported taking any remedial coursework in 2007–08.

[10] Achieve, *Rising to the Challenge: Views on High School Graduates' Preparedness for College and Career: Key Findings From Survey of College Instructors and Employers Who Teach and Hire Recent High School Graduates* [PowerPoint presentation] (2015), http://www.achieve.org/rising-challenge-survey-2-powerpoint. The national opinion survey reported that 78 percent of college instructors believe public high schools are not doing enough to prepare students for the expectations of college, and 62 percent of employers believe they do not do enough to prepare students for their careers.

Adopting college- and career-ready standards was only the first step of a long process to set higher expectations for student performance that could translate into improved outcomes. With standards in place, states had to create their curricular frameworks, curriculum materials, professional development materials, and other supports to effectively implement a coherent system of teaching and learning. Critically, these supports included formative and interim assessments. Unlike statewide summative assessments that evaluate student learning at the end of an academic year, formative assessments (given any time during the course of instruction) and interim assessments (given at predetermined points of time during the year) provide ongoing feedback about student learning that teachers can use to adjust their instruction and positively impact student learning throughout the school year.

Race to the Top states and districts made significant progress in transitioning to the state-developed college- and career-ready standards, and the process continues. Every Race to the Top state and district devoted considerable time and funding to redesign their curricula to align with their college- and career-ready standards and support teachers and leaders to help students reach those standards, including translating standards into effective classroom practices. States held face-to-face meetings, made public presentations, distributed easy-to-understand print materials, and provided information on their websites and through emails to keep parents and community stakeholders engaged and informed about the need to raise standards and expectations so that students are prepared for success after graduation. As more students graduated and enrolled in college (see pages 21 and 22), states also voluntarily collaborated with each other to develop materials that provide teachers with specific resources to ensure students are on the path to meet college and career expectations.

States work together with teachers to implement college- and career-ready standards

The transition to college- and career-ready standards offered an opportunity for states to provide teachers with better training opportunities and instructional resources and to improve access to these resources using technology. For example, teams of teachers in Rhode Island created, for the first time, model curricula in English/language arts and mathematics from kindergarten through high school and made them available online. Districts and schools then tailored these curricula to meet the needs of their particular students. Every Race to the Top state created resources that teachers can use in their classrooms to monitor student progress during the school year. For example, in Florida, the state provided sample lessons and a bank with over 90,000 items that teachers can use to let them know where students

EngageNY: Access to Free Online Professional Development and Instructional Resources

In 2011, **New York** launched EngageNY (www.EngageNY.org). The site provides in-depth resources to support teachers implementing college- and career-ready standards at each grade level. The resources include, for example, lesson plans, classroom activities and assessments to monitor progress. In addition to providing teachers with resources to improve instruction that go beyond the traditional textbook, the site also offers videos, newsletters, activities, and other resources for families and parents to help them understand the standards and ways to support the education of their children. All of these resources are available free and online for teachers, parents and families across the country. As of August 2015, the New York State Department of Education reported that EngageNY received 24.2 million visits from 9.4 million users worldwide, for a total of more than 131.7 million page views. For example, California educators are putting the tools to use. Said one California mathematics coach, "A lot of what we need is on EngageNY."

"The message of instructional change is heard a little bit better when it comes from fellow teachers. And it's also nice that the state is listening to teachers.… They care about our expertise and what's happening in classrooms."

— Seventh-grade mathematics teacher in Athens, **Ohio**

are struggling so any problems can be immediately addressed. Teachers in every Race to the Top state also developed and used high-quality formative assessment practices (for example, asking questions that prompt a student to correct a misconception or giving a three-question quiz at the end of a lesson) or interim assessments (for example, an end-of-unit writing exercise or end-of-course assessment), or both, aligned to college- and career-ready standards. Many states, like Georgia, Hawaii and Florida, link their formative and interim assessments to online instructional resources such as test item banks, lesson plans and model curricula.

Race to the Top states also encouraged teachers and school leaders at all levels of the education system to share instructional resources aligned to the standards across and within states. New York State teachers created an extensive array of instructional resources to implement college- and career-ready standards. The project, known as EngageNY (see sidebar), has supported the standards transition widely, both in New York and across the country.

Teachers and leaders improve instruction by learning from each other

Implementation of college- and career-ready standards cannot be accomplished without significant involvement and engagement of teachers and school leaders. Across Race to the Top states, teachers and school leaders worked together to create tools and resources to help them understand the standards and how best to implement them. Hands-on, job-embedded training helped teachers transition to new content. For example, in the District of Columbia, nearly 200 teachers worked together to align their instruction with college- and career-ready standards. During the year, they exchanged ideas and learned from each other about strategies to help their students succeed. As part of the process, teams of teachers developed performance tasks, sample lessons and instructional videos for their peers to use in the classroom. Across Tennessee, to encourage more writing in the classroom, teachers administered rigorous, no-stakes assessments aligned to college- and career-ready standards, and developed over 2 million constructed-response and 700,000 sample writing assessments to monitor student progress during the year. In Maryland, intensive professional development through Educator Effectiveness Academies and College and Career Readiness Conferences reached teams from every school in the state to help them develop an in-depth understanding of the new standards and share ideas about how to translate the standards into their own personalized lessons and instruction. Teachers and school leaders reported that working together substantially expanded their understanding of the standards and ways to help students meet those standards.

Teachers Leading the Standards Transition

- **Tennessee** selected 700 high-performing teachers, called CORE coaches, to lead the state's transition to college- and career-ready standards by providing professional development that reached 45,000 of their colleagues in training sessions over three school years and summers.
- **Ohio** teachers, coaches, mentors and curriculum developers led the state's efforts to write model curricula in English/language arts and mathematics and create formative assessments. Through regional networks, teachers provided Ohio's SEA with feedback on how state policies are impacting schools and shared state-level updates with their colleagues.
- **Maryland** hosted two-day Educator Effectiveness Academies that reached more than 9,000 teachers from every school in the state over three summers. Teachers attended in content-based teams to plan for their schools' emerging needs as they transitioned to college- and career-ready standards.

Race to the Top states created opportunities for teachers to practice new techniques and incorporate new instructional practices into their classrooms. In several Ohio districts, for example, teachers teamed up to release colleagues from their classroom teaching responsibilities for periods of time to participate in shared planning and coaching, a more productive strategy than having each teacher experiment with instructional changes alone. In New York's Albany Public Schools and Georgia's Atlanta Public Schools, district leaders identified model classrooms for teachers and school leaders to visit and observe high-quality instruction and standards implementation in action. With outside experts, Tennessee's SEA developed research-based courses to train teachers and leaders on content knowledge and instructional shifts involved in implementing college- and career-ready standards. Tennessee carefully selected 700 high-performing teachers based on their record of classroom achievement to serve as coaches to teach the courses. This cohort of teacher-coaches ultimately reached more than 45,000 teachers and leaders over three school years and summers. The focus on school leaders made a difference. In the words of one Tennessee leadership coach: "Administrators experienced instructional practices firsthand, not just in theory or through observation. Conversations grew in richness and teachers felt supported in their transitions. Without the Leadership Course, the collaborative sessions over a year's time, and the embedded activities, school and district leaders would have remained in the theoretical arena where so much of our professional learning resides."

Using College- and Career-Ready Standards to Promote Critical Thinking

Students become engaged in their own education when teachers emphasize practical applications of academic material using concepts relevant to students' lives and have students explain their reasoning.[11] Even in elementary grades, teachers like Reyna Britain at Kaelepulu Elementary School in Hawaii have students explain their thinking instead of just giving the correct answer. This kind of deeper engagement with the subject matter prepares students for the critical thinking they will need in the higher grades and beyond, regardless of the pathway they choose. Said McKinsey Carroll, a student at Kailua Intermediate School in Hawaii: "In science and social studies we're doing writing projects right now. It's way more intertwined with everything else." Echoes her principal, Lisa DeLong: "I see that they're writing more, and they're reading more complicated texts. Then they're being more successful as they apply those skills, maybe in a video contest or in History Day or in their science fair projects, because they're able to think at more complex levels and… communicate their message in a stronger way."

[11] Douglas Frye, Arthur J. Baroody, Margaret Burchinal, Sharon M. Carver, Nancy C. Jordan, and Judy McDowell, *Teaching Math to Young Children: A Practice Guide* (NCEE 2014-4005) (Washington, D.C.: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education, 2013), http://ies.ed.gov/ncee/wwc/pdf/practice_guides/early_math_pg_111313.pdf.

"Formative instructional practice gave teachers a 'how to' in ways other than test prep for teachers to [determine] what students know. Multiple choice and drill-and-kill efforts were done in the past rather than understanding student knowledge and weaknesses, and areas to improve student performance."

— State leader in **Georgia**

Implementing practices that help teachers and students track progress

College- and career-ready standards require rigorous and reflective instructional practices that empower students to engage in their learning and increase their awareness of what they know, what they need to know and what they are ready to do next. All Race to the Top states invested in training to strengthen teachers' abilities to assess and provide feedback on student work through the use of effective practices, such as "formative instructional practices." As noted earlier, formative instructional practices are informal and formal strategies teachers use during class time to gauge student learning, for example, to determine if a student understands the material or to check if a student is ready for more rigorous or complex problem solving. Further, formative instructional practices allow teachers to track student progress and, when used consistently, also provide students with feedback and a roadmap to meeting college- and career-ready standards.

Florida, for example, developed a bank of 1,300 formative assessment items that teachers can use to track students' progress toward meeting mathematics standards. The tasks are brief and designed to be used with groups of students. Teachers are provided with a rubric that includes examples of student work and shows typical misconceptions or errors. Seeing the range of student work can help teachers assess students' understanding and design future lessons to build upon or remediate student learning. One Florida teacher explained: "It's worked wonders for my students' level of engagement. With [mathematics formative assessments], students are working right at their struggle level. They are capable of doing the task and get direction, but it is not so easy that they race through it." A Florida study of kindergarten and first-grade teachers and students in the 2012–13 school year found that when teachers used the mathematics formative instructional practices, students gained an additional 10 weeks of learning compared to their peers, and teachers acquired significantly more mathematics knowledge.[12]

All Race to the Top states made these trainings, as well as other research-based practices, available to all teachers in the state. Teachers who participated in these professional development opportunities learned about instructional strategies through online course modules, practiced the new strategies in their classrooms and came together in teams to examine student responses. One state leader said, "Formative instructional practice (FIP) was one of our most successful initiatives. FIP gave teachers a 'how to' in ways other than test prep for teachers to [determine] what students know. Multiple choice and drill-and-kill efforts were done in the past rather than understanding student knowledge and weaknesses, and areas to improve student performance."

[12] Florida Center for Research in Science, Technology, Engineering, and Mathematics. Research project description available at http://lsi.fsu.edu/Our-Centers/Florida-Center-for-Research-in-Science-Technology-Engineering-Mathematics/Research-Development/Recent-Research-Development-Projects.

Increasing student access to college and career opportunities

Several Race to the Top states took additional steps to set up students for success in college and careers. For example, Massachusetts provided training to help school counselors advise students on selecting high school courses that reinforce critical knowledge and alleviate the need for remedial courses in college. The District of Columbia and districts in Ohio and Massachusetts aligned their high school graduation requirements with their states' college entrance requirements to bridge the readiness gap from high school to college. Districts in Maryland, Florida, Hawaii and Georgia focused on increasing access to STEM courses and ensuring that the courses were sufficiently rigorous to put students on the path to further study and work in STEM fields. And multiple states, including Delaware, New York and Ohio, supported access to AP and pre-AP courses through direct training for teachers or access to virtual courses. As shown in the maps on page 20, enrollment in AP courses is up in Race to the Top states, as is the percentage of scores that are three and above.

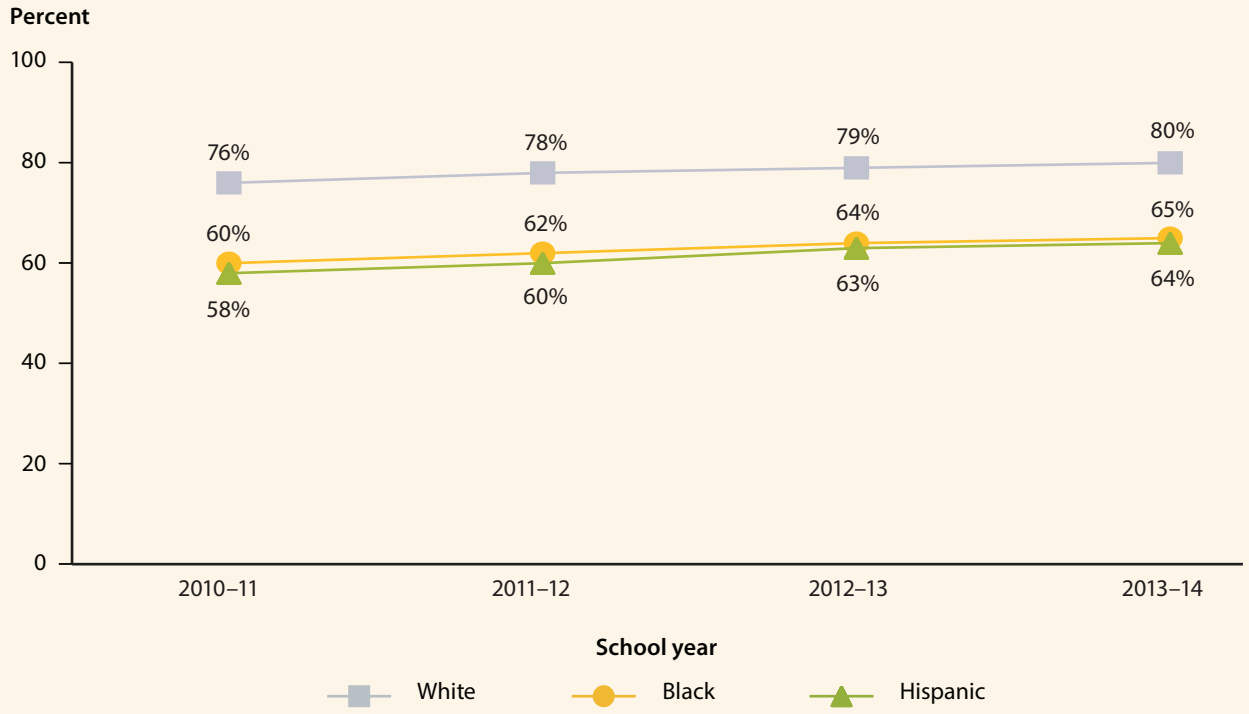
Race to the Top districts also partnered with local colleges and universities to increase student access to courses that would introduce students to twenty-first century career opportunities after graduation and encourage college enrollment. For example, in Florida, Duval County Public Schools partnered with Embry Riddle Aeronautical University to enroll 1,100 students from 13 high schools in an Unmanned Aircraft Systems course. In Levy County, Florida, teachers led an effort to convert a carpentry shop into an agriculture biotechnology lab, outfitting it with pipettes, graduated cylinders, analytical balances, electrophoresis equipment, desktop computers, tablets and interactive whiteboards. Students now have access to a working lab and are researching and presenting on topics from cloning and DNA replication to creating new fuel sources. Race to the Top was an important catalyst for innovative programming for students in these districts.

Georgia's Performance Learning Centers

In addition to increasing college and career readiness opportunities for students, states like Georgia supported programs designed to help students at risk of not graduating to continue on to graduation. During the grant period, **Georgia** opened three Performance Learning Centers to scale up an existing successful approach to ensure more young people graduate from high school. The Centers operate through local public–private partnerships to provide 200 students with one-on-one mentorship and an academic program that is career focused and requires community service. Each Center's teachers meet individualized student needs through a combination of tutoring, online courses and in-person teacher-led courses. Students can access academic and nonacademic services at any time, progress through courses at their own pace, and graduate at any time during the year.

Research has shown that districts with Performance Learning Centers improved their graduation rates and lowered dropout rates.

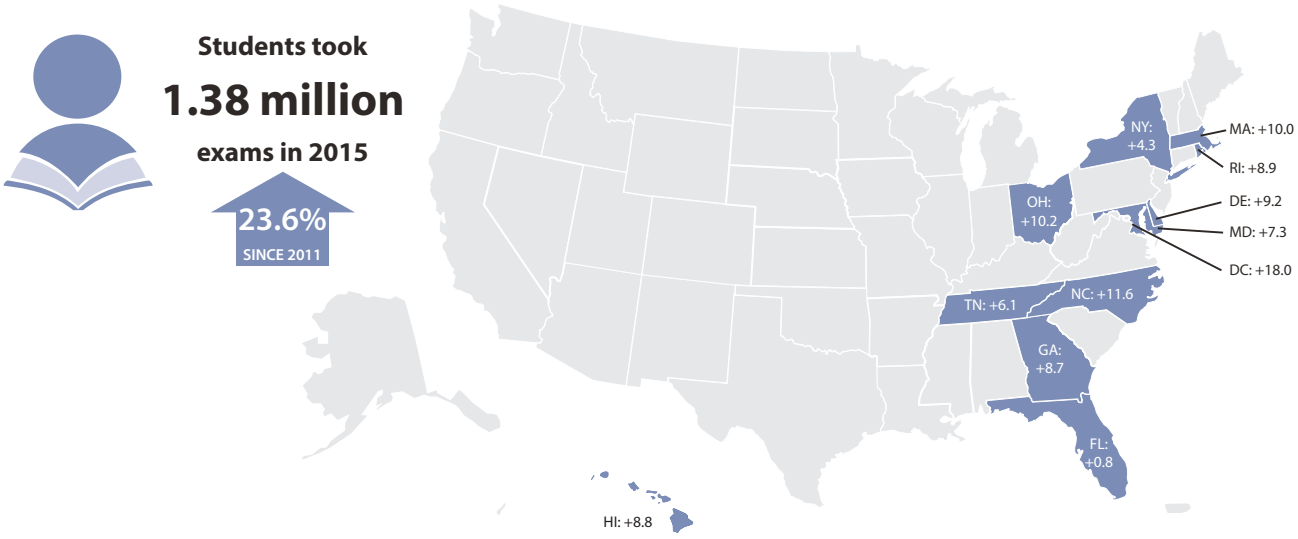
Graduation rate trends in Georgia between SY 2010–11 and SY 2013–14



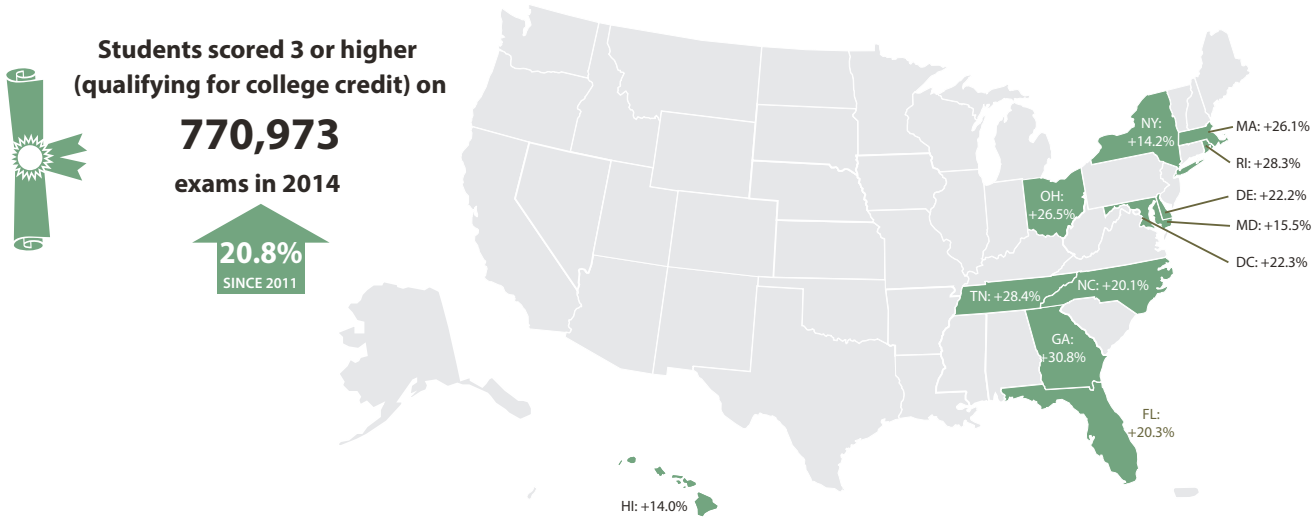
Source: State submissions to the U.S. Department of Education's ED*Facts* Reporting System. For more information on these data, see "Data Notes" on page 58.

Increased Participation and Success in Advanced Placement Courses

Percentage point increase in students enrolled in AP courses between 2011 and 2015



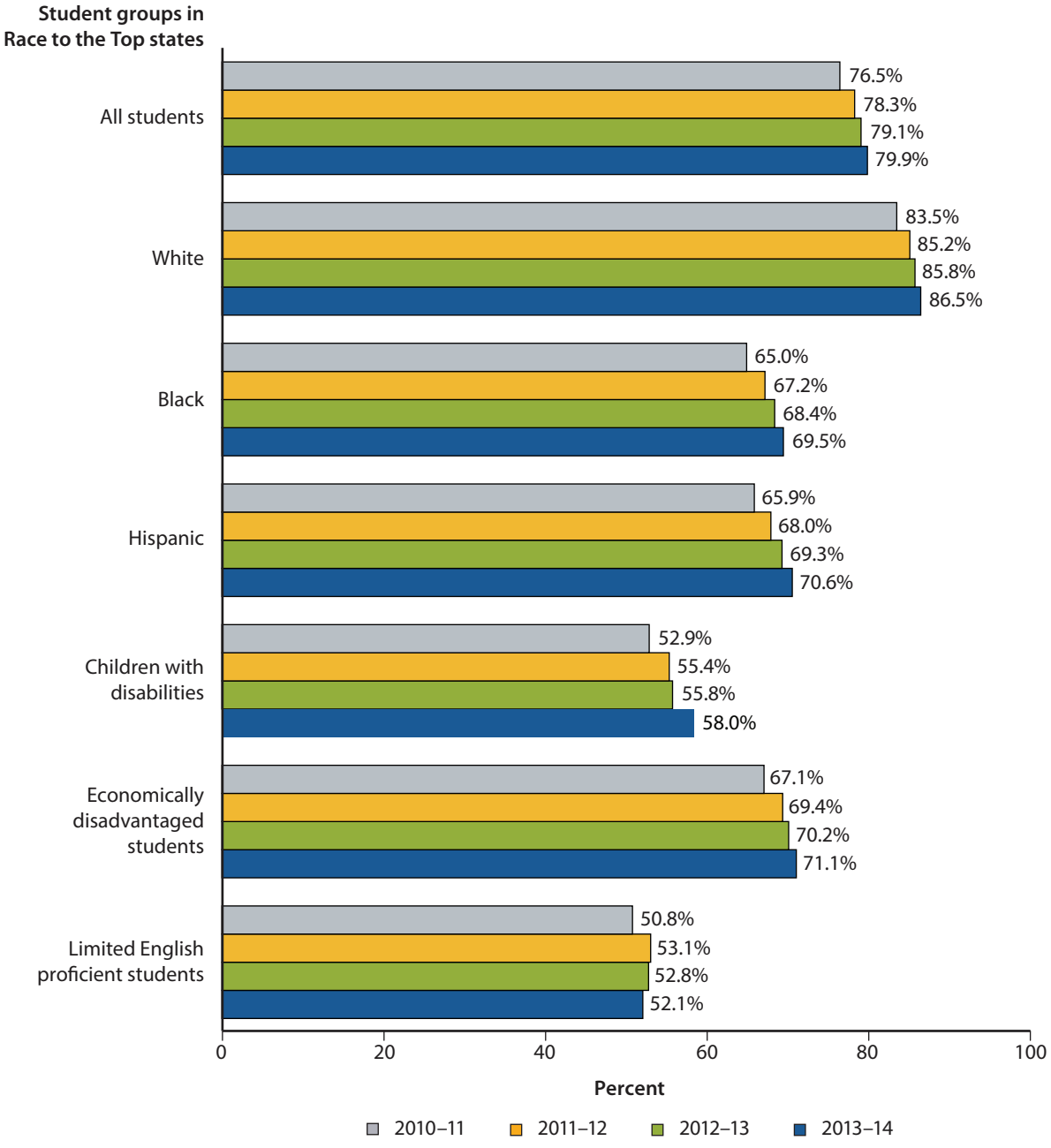
Percent increase in AP exam scores of three and above between 2011 and 2014



Note: More information about these data can be found on the College Board's website: http://research.collegeboard.org/programs/ap/data. Enrollment data include all subjects and grades 11 and 12. Test score data include all subjects and grades.

Students Are Graduating From High School at Increased Rates

Change in graduation rate between SY 2010–11 and SY 2013–14 in Phase 1 and 2 states

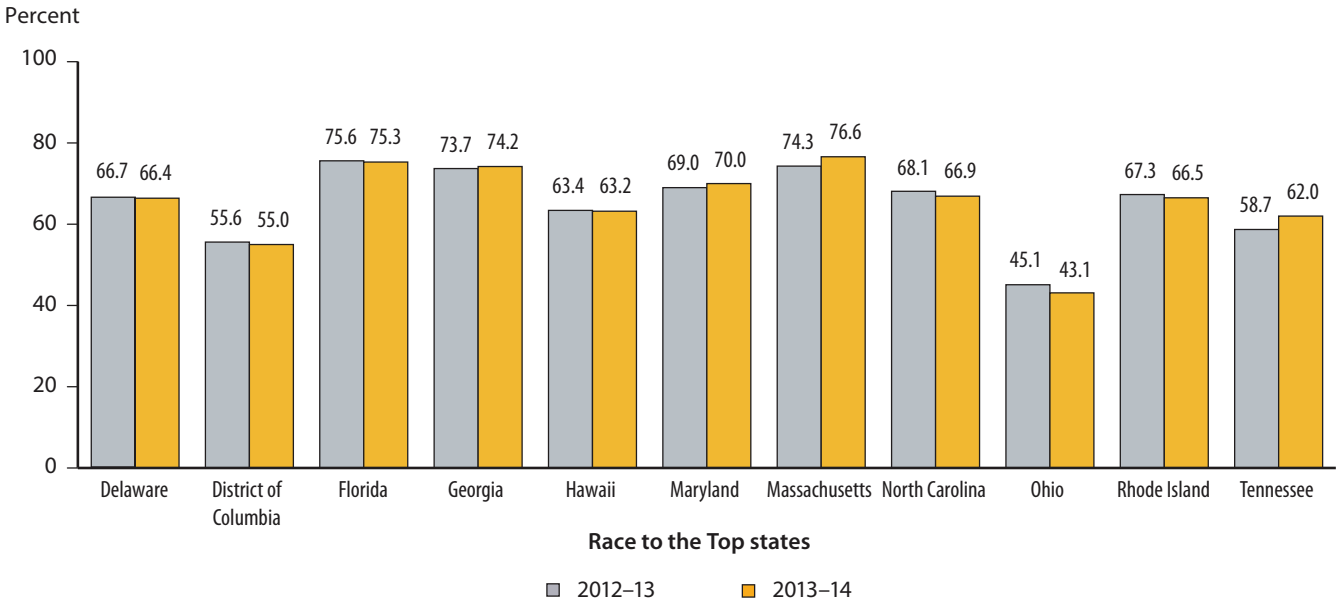


Note: The number of students in each cohort for school years 2010–11, 2011–12, 2012–13, and 2013–14, by group, are as follows: All students: 1,069,243; 1,045,900; 1,045,201; and 1,032,813. Children with disabilities: 141,847; 137,788; 139,839; and 133,817. Economically disadvantaged students: 434,490; 447,166; 468,753; and 466,948. Limited English proficient students: 45,753; 45,567; 45,450; and 46,496. White: 591,107; 574,240; 566,958; and 554,697. Black: 266,068; 255,190; 249,152; and 241,391. Hispanic: 138,260; 139,764; 149,667; and 155,688. For more information on these data, see "Data Notes" on page 58.

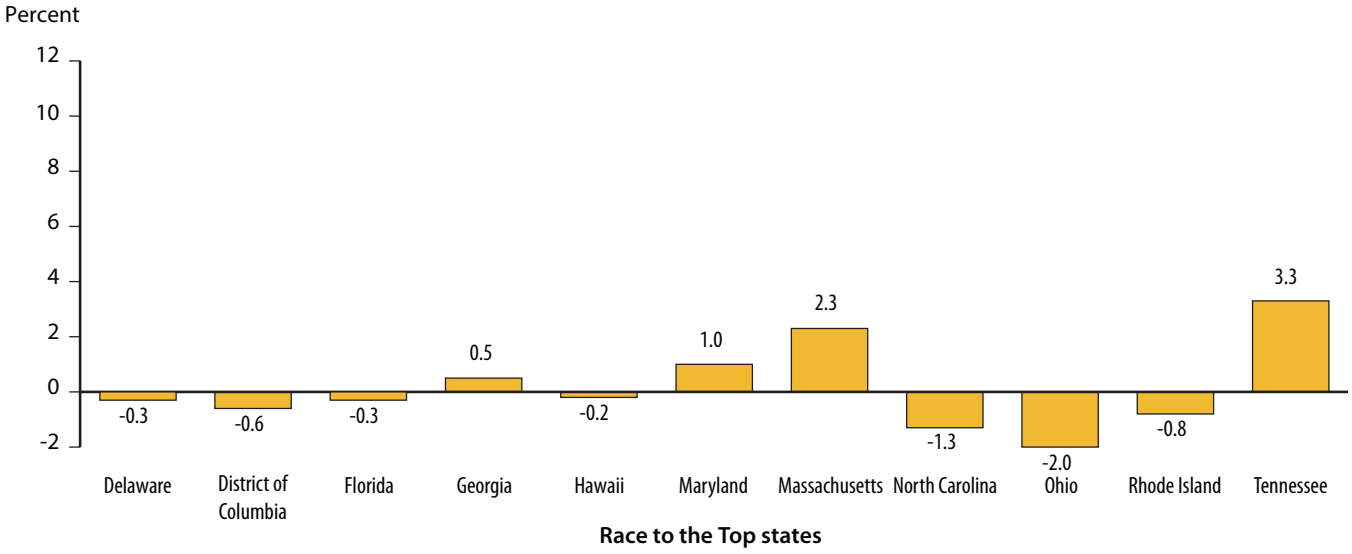
Source: State submissions to the U.S. Department of Education's ED*Facts* Reporting System.

College Enrollment Rates

Change in rates of enrollment in institutions of higher education in SY 2012–13 and SY 2013–14 in Phase 1 and 2 states



Percentage point change in rates of enrollment in institutions of higher education between SY 2012–13 and SY 2013–14



Note: New York is excluded due to missing data. Following the release of this report, Delaware updated its 2012–13 school year college enrollment data. ED accepted these updated data, and the charts have been revised accordingly. For more information on these data, see "Data Notes" on page 59.
Source: State submissions to the U.S. Department of Education's ED*Facts* Reporting System.

Looking ahead

Teachers, leaders and students across the country have worked hard to transition to higher standards for teaching and learning. Teachers are working with each other to develop and identify the best instructional practices for their students, and local education leaders are working to determine the best materials and resources to improve student learning. Race to the Top state leaders reported a shift among their teachers and principals. As they became more familiar with college- and career-ready standards, more teachers and school leaders believed the standards could positively impact students' critical thinking. Teachers are seeing the benefits of more rigorous standards as well as opportunities for more creativity in the classroom. With collaboration across states and critical input from teachers and leaders, states and districts will continue to improve the resources and supports that teachers and leaders need to effectively implement college- and career-ready standards and instructional practices tailored to student needs. Teachers now have consistent goals and benchmarks to ensure that all students progress on the path to success in college and careers. And students and parents have a clear roadmap of what students need to know and be able to do to be prepared for success after graduation.

Throughout the transition to college- and career-ready standards, teachers, principals and parents considered ways to improve the quality of testing and reduce the number of unnecessary, redundant tests and the amount of time devoted to testing and test preparation. For example, during the grant period, 277 New York districts developed plans to eliminate assessments that did not contribute to teaching and learning and improve the quality of existing assessments. Used properly and prudently, high-quality assessments are valuable tools for teachers and parents to determine where students are struggling and where instruction needs to be improved or enhanced.

As teachers refine their practice and students benefit from improved instructional practices, more attention may shift to ensuring teacher and leader preparation programs incorporate college- and career-ready expectations into their coursework with aspiring teachers. Work in Tennessee already has demonstrated the success of collaborating with professors of education to ensure that individuals training to be teachers have a working knowledge of how to align classroom instruction to meet rigorous standards. A partnership among deans of colleges of education and the Ayers Institute for Teacher Learning and Innovation at Lipscomb University created an extensive video series and training materials to support changes to teacher instruction. The training reached 950 faculty members, and over 2,000 other faculty members have accessed the resources online. Implemented at scale, initiatives like this one in Tennessee could help ensure that teachers who are new to the profession are prepared for the instructional demands of higher standards.

Great Teachers and Leaders

Excellent teachers and school leaders have the greatest in-school impact on student academic outcomes.[13] That is why Race to the Top states made significant investments in supporting teachers and school leaders at every stage of their careers. Supporting educators as they build their practice requires strong preparation of aspiring teachers and ongoing professional development opportunities for all teachers and leaders; regular feedback on teaching and leadership practices, informed, in part, by student progress; and strong instructional leaders in every school.

In 2009, before they began their work, Race to the Top states and districts had little useful or targeted information on teacher performance. Previously, most teachers were evaluated sporadically, and the only measure of performance may have been a classroom observation that resulted in a binary rating of "satisfactory" or "unsatisfactory." The limitations of this information contributed to many districts and schools treating teachers as if they were all the same rather than recognizing them as individual professionals with different levels of skill, varying degrees of weaknesses and strengths, and different professional development needs.[14] Districts generally did not have reliable and transparent ways to reward and differentially support individual teachers. And administrators typically were not trained to evaluate teacher performance on multiple criteria rooted in instructional best practices.

Race to the Top capitalized on efforts already underway, such as those in the District of Columbia and Tennessee, to change this pattern. Race to the Top states worked to establish professional supports and career opportunities for teachers based on data from evaluations that used multiple measures of performance, included three or more rating categories, and were conducted frequently. These states believed that with better feedback and evaluation practices, it would be possible to improve outcomes for students by rewarding top performers in teaching and leading, and supporting targeted continuous improvement for all teachers and school leaders.

[13] On teachers, see Steven J. Rivkin, Eric A. Hanushek, and John F. Kain, "Teachers, Schools, and Academic Achievement," *Econometrica*, Vol. 73, No. 2 (March 2005), 417–458. On principals, see Gregory F. Branch, Eric A. Hanushek, and Steven G. Rivkin, *Estimating the Effect of Leaders on Public Sector Productivity: The Case of School Principals* (NBER Working Paper 17803) (Cambridge, MA: National Bureau of Economic Research, 2012), http://www.nber.org/papers/w17803.

[14] Daniel Weisberg, Susan Sexton, Jennifer Mulhern, and David Keeling, *The Widget Effect: Our National Failure to Acknowledge and Act on Differences in Teacher Effectiveness* (New York, NY: The New Teacher Project, 2009).

Teachers Are More Than Satisfactory or Unsatisfactory

Rhode Island's model evaluation and support system rates teachers and principals as Highly Effective, Effective, Developing or Ineffective.

Georgia's Teacher Keys Effectiveness System rates teachers and principals as Exemplary, Proficient, Needs Development or Ineffective.

Sources: Rhode Island Department of Education, Rhode Island Model Evaluation and Support System Teacher Guidebook; and Georgia Department of Education, Teacher Keys Effectiveness System Implementation Handbook.

Improving teacher and leader evaluation practices

Race to the Top states and districts have begun to develop, implement and refine teacher and leader evaluation systems that stand in stark contrast to the evaluation systems in place in 2009. These new systems typically are anchored by a rigorous local or state framework describing the expectations for teachers and principals and draw on multiple measures for determining teacher effectiveness, including classroom observations, professional practices (such as lesson planning and contributions to the school), student and staff surveys and growth in student learning. Based on the data from multiple measures, teachers receive feedback on many aspects of their practice, including instructional presentation, student-questioning approaches and knowledge of subject matter. Rather than "satisfactory" and "unsatisfactory" rating categories, three to five rating categories, such as Highly Effective, Effective, Developing and Ineffective, are used to evaluate teachers and leaders. This expanded range of ratings helps school and district leaders identify top performers and offer more accurate, actionable feedback on performance to all teachers. Because this is new and challenging work, many Race to the Top states certify evaluators in the evaluation system and ensure they have access to ongoing training. On the whole, new teacher and leader evaluation systems are helping to establish district- and school-level practices that provide better information about how teachers teach and what students learn.

State and district education leaders report that new evaluation practices have changed the conversation among teachers, principals and district leaders. The conversation has expanded to include data on teacher actions that impact student learning. When teachers and leaders have better information about their practice, they continuously improve, and their students learn more. One Tennessee district superintendent reflected: "We embraced the evaluation practices to strengthen feedback to teachers. We used videos to reflect on classroom observations and feedback conferences to discuss instructional strategies. In the 2013–14 school year, our student growth outpaced the state's."

Ongoing feedback from teachers and school leaders is key

Ongoing feedback from teachers and school leaders improved state and local evaluation practices. Rather than simply listing requirements for districts and schools to implement, states adopted continuous improvement strategies as they implemented their evaluation systems, with ongoing communication and an emphasis on responding to suggestions and concerns from teachers and leaders. Although every state shared information about its evaluation

system using a variety of resources online, such as guidebooks and training videos, many states discovered that this was insufficient to engage teachers and leaders and secure their buy-in. States learned that written materials alone did not address the many issues that teachers and leaders experienced during implementation of a new evaluation system. To track local needs over time, states developed methods for engaging teachers and school leaders and used their feedback to make ongoing improvements to the system. Every Race to the Top state annually surveyed teachers and school leaders on their experiences with, and perceptions of, new evaluation systems. In 2012, Tennessee teacher survey data indicated that rates of teacher readiness to implement aspects of their evaluation system ranged from 70 to 85 percent, and the 2013 teacher survey data indicated rates of readiness over 90 percent. The state attributed this increase in readiness to training sessions on providing effective feedback and measuring student learning.

Tennessee districts and schools told their SEA that teacher and principal evaluations were too rigid. SEA leaders responded with opportunities for local flexibility. Districts took advantage of the flexibility, for example, by incorporating teacher survey data into principal evaluations and using videotaped classroom observations to improve feedback.

Some states, including Delaware, Tennessee and Massachusetts, relied on groups of teachers and leaders to provide them with ongoing input on new approaches or strategies to improve evaluation practices. Many state education leaders traveled to districts and schools to hold focus groups and hear directly from teachers and school leaders. Each year, state leaders used information from teachers, school leaders and other key local stakeholders, such as school boards and teacher unions, to inform their decisions about changes to the system. For example, based on feedback from key stakeholders in Rhode Island during the first year of implementing its evaluation system, state leaders streamlined and reduced the number of observation components, student learning objectives and yearly observations for the second year of implementation. Tennessee state leaders also increased flexibility in implementing local evaluation systems, and districts took advantage of this flexibility, for example, by adjusting the number and scope of classroom observations.

New evaluation practices involved a shift in culture and expectations that, understandably, created anxiety among teachers, school leaders and key local stakeholders. As a result, Race to the Top states and districts learned to prioritize communication to these groups, with the goal of providing clear, consistent and timely information and dispelling misunderstandings about the purpose of new evaluation systems and how the results of evaluations would be used. Recommendations from districts, teachers, school leaders and key local stakeholders on ways to improve evaluation systems will continue to be critical to continuously improving evaluation practices. The RSN created the Educator Evaluation Communications Toolkit to provide states with strategies for effectively communicating and engaging teachers and leaders in implementing and improving evaluation systems.

Measuring performance fairly requires training and support

Before states began expecting more from their evaluation systems, there was little pressure to ensure that evaluations provided high-quality and reliable data. The methods and kinds of data used in past evaluation systems varied widely and labeled almost every teacher as "satisfactory" based on general observations. Few places linked evaluation data with supports for teachers to improve their classroom practice.

New evaluation systems have started changing that paradigm. The new evaluation systems call for new kinds of data, including data about growth in student learning. The data can then be used for making important decisions, such as professional development and professional advancement opportunities. To do this well, Race to the Top states focused on two critical areas of implementation: supporting teachers to measure growth in student learning and supporting principals as instructional leaders.

Supporting teachers to measure growth in student learning. Race to the Top state plans included growth in student learning as one of the multiple measures in their teacher and school leader evaluation systems. The most readily available measures of student achievement that are consistent and reliable across a state come from annual statewide assessments. As a result, each Race to the Top state developed measures of growth in student learning and made the data available to teachers, school leaders, district leaders and, in some cases, parents.[15] These measures of growth in student learning provided a reliable measure of teachers' contributions to student learning because they addressed a student's proficiency across multiple years on a valid assessment that was comparable across classrooms and schools.

[15] For the definition of growth in student learning, see Department of Education, Race to the Top Fund, Final Rule, 74 Fed. Reg. 59688 (Nov. 18, 2009). For descriptions and definitions of models of growth in student learning, see David Stuit, Mark Berends, Megan J. Austin, and R. Dean Gerdeman, *Comparing Estimates of Teacher Value-Added Based on Criterion- and Norm-Referenced Tests* (REL 2014–004) (Washington, D.C.: Regional Educational Laboratory Midwest, National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education 2014), http://ies.ed.gov/ncee/edlabs/regions/midwest/pdf/REL_2014004.pdf.

However, growth in student learning on statewide assessments typically was available only for grades four through eight and once in high school in math and English/language arts. Therefore, it applied to just 20 to 30 percent of all teachers in a state. To address this challenge, states and districts worked to develop rigorous and comparable measures of growth in student learning for grade levels and subjects not annually assessed, such as seventh-grade science, 10th-grade journalism, and 11th-grade physics. For some subjects and grades, existing assessments, such as AP exams, could be used to model pre- and post-measures. However, for many grades and subjects, there were not well-accepted, rigorous methods of assessing growth in student learning that were comparable across classrooms in a district or across districts in a state. Measuring growth in student learning in these so-called "non-tested" grades and subjects is critical because student success after high school depends on exposure to and mastery of content in courses beyond English/language arts and mathematics. Taken together, these measures of growth in student learning provide an understanding of the extent to which teachers' instructional and professional practices prepare students for college and careers.

Developing measures of growth in student learning for non-tested grades and subjects proved to be more difficult than many states originally expected. Teachers and leaders were faced with the challenging task of developing measures of growth in student learning aligned to college- and career-ready standards as they were simultaneously developing their new local curricula and materials to teach to those college- and career-ready standards. In addition, students were often being assessed against existing state standards, while teachers were changing their instruction to address the new college- and career-ready standards.

Race to the Top districts and schools overcame these challenges by developing goals and rigorous measures of growth in student learning at the beginning, middle and end of a school year for non-tested grades and subjects. Multiple data points allowed teachers to set growth in student learning goals in grades and subjects for which there were no statewide assessments. These measures are referred to as "student learning objectives" (SLOs) or "district-determined measures." For example, in Delaware, state leaders engaged 600 teachers to develop over 200 assessment "tool kits" that provided rigorous and comparable measures of growth in student learning for non-tested grades and subjects. Tennessee teachers developed and piloted the use of portfolios of student work to measure growth in student learning in subjects like world languages, fine arts and physical education. In Hillsborough County, Florida, state and district leaders worked with the teachers union to include student performance on end-of-course assessments as a measure of growth in student learning in teacher performance evaluations. The RSN gathered and posted SLO resources and tools from Race to the Top states, including a tool kit, communications workbook and an SLO library with annotated SLOs.

Some states, including **Georgia**, **Rhode Island** and **Hawaii**, created platforms to help school leaders manage the large amount of information generated by new evaluation and support systems. These platforms securely store observation notes, allow teachers to upload documents, and track progress throughout the school year, among other things.

Measures of student learning and teacher and leader evaluation practices, in general, generated enormous amounts of information. Race to the Top states worked to organize and display this information in accessible and meaningful ways for teachers, school leaders and decision makers. For example, each school leader in Georgia can access a secure dashboard that gives performance information about the teachers that leader oversees. The dashboard includes individual and schoolwide performance data on observation standards such as "The teacher promotes student learning by using research-based instructional strategies relevant to the content."[16] Georgia's data system quickly and efficiently makes this type of information available to all school and district leaders.

Race to the Top states came together to share their best practices in helping districts and schools comprehend the large amount of teacher and leader performance data generated by new evaluation systems. The RSN developed two resources to support states in managing the volume of new information: the Data Dashboard and Scorecard Guide helps states identify the questions they want their evaluation systems to answer, and the Data Dashboard and Scorecard Menu of Metrics helps states identify the data that would need to be collected to answer the questions.

Race to the Top states and districts have made significant progress toward measuring student performance and growth in student learning in every grade and subject and focusing on the practices and information that matter most for student success. States and districts will continue working to improve their teacher and leader evaluation practices and developing processes and strategies to effectively use evaluation information to determine professional development needs. No matter how difficult it is to measure student learning over the course of a year and to support teachers in maximizing that learning, teachers and leaders in Race to the Top districts and schools report it is the right discussion to have. One district leader reflected: "We have successfully created an expectation that educators will be evaluated and deserve feedback about their practice and impact on student learning. Additionally, we have witnessed a desire with principals to provide more targeted, helpful feedback than ever before."

"In the past, we were managers; now there is a shift and, as an instructional leader, I am expected to train the teachers to be better teachers and leaders."

—**Ohio** school leader

Supporting principals as instructional leaders. To use evaluation data to support the continuous improvement of their teachers, school principals who conduct teacher evaluations often take on new responsibilities as instructional leaders. Race to the Top states learned that collaboration and communication among state and district leaders and school leaders,

[16] Georgia's Teacher Keys Effectiveness System Implementation Handbook is available at https://www.gadoe.org/School-Improvement/Teacher-and-Leader-Effectiveness/Documents/TKES%20Handbook%20FINAL%207-18-2013.pdf.

early and on an ongoing basis, are critical to developing and supporting instructional leaders. In its first years of implementing its new evaluation system, for example, Rhode Island used a rigorous hiring process to identify "support specialists" to help school leaders schedule classroom observations, create procedures for teachers to submit evidence of their instructional skills, and ensure student and teacher data accuracy, among other things. Being in every teacher's classroom and providing useful feedback requires principals to identify teacher actions and behaviors that support student learning, and then provide feedback to teachers that can be used to improve instructional and professional practices.

"My assistant principal and I worked very closely to make sure that we agreed on what is good instruction. We were on the same page, and that built teacher trust."

— Elementary school principal in **Tennessee**

As in many states, principals in Tennessee reported in surveys that they wanted to improve their classroom observation skills, as well as their skills in providing meaningful feedback to teachers. For some principals, feedback conversations can be challenging. In response, the SEA provided one-to-one coaching on conducting observations that resulted in greater consistency in ratings among evaluators and better feedback to teachers. As one coach explained, "A coach can give [a principal] the knowledge and courage to [provide teachers with high-quality feedback]." A report on the second year of implementation found that providing this specific support helped ensure that classroom observation scores were more consistent with other measures of teacher performance, such as growth in student learning. One principal coach for elementary school principals reflected, "I hate to be overly enthusiastic, but I've never seen anything that has made as immediate and substantive changes in the growth of children's learning as this program." Using lessons from Race to the Top states, the RSN issued a report, *Promoting Evaluation Rating Accuracy: Strategic Options for States*, that helps states analyze the quality of their evaluation data and provides seven strategies to improve rater accuracy.

Teachers Leading Professional Development for Teachers

Teachers in high-performing schools in the **District of Columbia** developed and led training for teachers in 35 nearby schools that serve 15,500 students.

446 teachers in **North Carolina**'s Governor's Teacher Network created professional development resources and made them available on Home Base, the state's data and resources platform.

Professional development that improves teacher practice and student outcomes

Race to the Top states and districts learned that new evaluation systems are only part of a comprehensive strategy to support the continuous improvement of their teachers and leaders. The continuous improvement of teachers and leaders also must include high-quality professional development. For this reason, all states made significant investments of time and funding to provide professional development that focused on improving teacher and leader practice and student outcomes. Race to the Top states created professional development opportunities that made the most of professional time and expertise. On-the-job coaching and teacher team-based learning and reflection began replacing "sit-and-get" faculty meetings and district conferences. Every state developed professional learning opportunities for

specific groups of teachers, such as teachers in their first years in the classroom, leadership teams at low-performing schools and teachers of English learners. To improve the quality of professional development for teachers and leaders, state and local leaders used the expertise of experienced teachers and leaders to create resources and lead training sessions, selected vendors that met specific teacher needs, and designed training based on teacher feedback and need. Examples of these initiatives are included on the next page. Massachusetts and Ohio developed professional development standards, insisting that professional development is only professional development if it improves teacher practice and positively impacts student outcomes.

States expanded professional learning and created opportunities for teachers to create and share resources among themselves. The District of Columbia designed the Professional Learning Communities for Effectiveness (PLaCEs) program for high-performing schools to lead training for other teachers on instructional approaches for implementing college- and career-ready standards. The PLaCEs program impacted teachers of 15,500 students across 35 charter schools and the District of Columbia Public Schools (DCPS). The District of Columbia Public Schools also manages Educator Portal Plus to provide both DCPS and charter school teachers online access to instructional resources, videos of instructional best practices and classroom assessment tools. The site gets at least 1,200 daily teacher log-ins. North Carolina used a regional approach to meet professional development needs: field-based experts conducted 949 customized regional sessions. In addition, the Governor's Teacher Network in North Carolina identified 446 excellent teachers to build and share professional development resources with their peers.

Race to the Top states also created new leadership development opportunities for principals throughout their careers. New York revised its principal certification process to require candidates to demonstrate proficiency in conducting classroom observations and providing feedback to teachers. Candidates conduct observations and provide feedback in simulated classroom settings as part of the certification process. In July 2015, Maryland graduated the first cohort of its Governor's Promising Principals Academy, a year-long intensive program designed to bolster school leaders' knowledge and skills. The state is continuing the program; a new cohort began in summer 2015. North Carolina graduated 1,219 leaders from its Distinguished Leadership in Practice program, which provides job-embedded, problem-based training to current principals and assistant principals. Many state plans also included specific supports for principals in the lowest-performing schools (detailed in the section of this report titled "Turning Around the Lowest-Performing Schools").

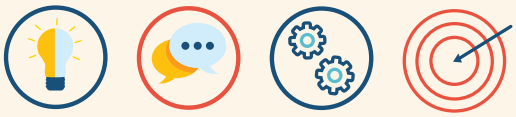
Many states developed technology platforms to provide teachers across the state with high-quality professional development courses and decrease the time needed for administrative tasks related to professional development. For example, technology platforms were designed to do the following:

- Make online courses available to teachers at their convenience.
- Include tools for teachers to create professional development plans.
- Provide professional learning content aligned to the standards used to evaluate teacher performance.
- Allow teachers to rate the content of online courses.
- Automate activities that were previously paper-based, such as processing teacher certification renewals and endorsements.

Using Multiple Approaches and Formats for Professional Learning

States implemented multiple approaches to professional development at every stage of a teacher or leader's career. Some groups, such as new principals and teacher data teams, preferred on-the-job coaching or facilitation. Others used blended learning approaches, combining online coursework with classroom practice and group meetings to reflect on and revise practices. Approaches included the following:

Job-embedded supports for teachers and building leaders



Ohio districts hired former principals with a track record of increasing student achievement to be principal coaches in struggling schools. Coaches bridged the gap between the district and school by providing regular feedback (without consequences) to principals to improve their school leadership skills.

Face-to-face problem-solving sessions with colleagues

All **Delaware** teachers met weekly for 90 minutes in professional learning communities to analyze classroom-level data and reflect on ways to adjust instruction to bridge identified gaps in student learning.

Online modules for large-scale training

Massachusetts needed to reach all core academic teachers who teach or might teach English learners. The state reached 25,527 teachers during the 2013–14 school year through online modules on content knowledge and instructional strategies for English learners.

Blended learning approach to learn instructional strategies and reflect on practice

Every **Rhode Island** school used a blended learning approach to increase teacher and leader knowledge and use of formative assessments to monitor student progress. Teachers learned the theory and practice of formative assessments through online modules and then used strategies in their classrooms before meeting with other teachers to reflect on and refine their practice. Ninety-seven percent of participants said they incorporated what they learned and practiced into their lesson plans.

Establishing systems that reward excellence and provide opportunities for growth

Leaders in Race to the Top states and districts report that the initial implementation of their evaluation systems was complicated and time consuming. However, they also acknowledge the important role that evaluation data can have in improving teaching and learning. School and district leaders are, for example, aligning professional learning to the specific teacher actions on which observers focus during classroom observations — such as student questioning and lesson planning. States reported that investments such as the scale-up of the Peer Assistance and Review programs in multiple Ohio districts and Hawaii's new data coaches for teacher teams are improving instructional practice through low-stakes observations and reflection on student outcomes. District of Columbia Public Schools changed its recruitment process to focus on the teacher competencies outlined in its teacher evaluation system.

As better information about teacher actions and performance becomes available, district leaders can use evaluation data to offer career advancement opportunities for teachers and leaders with a track record of results. In Tennessee, every district developed a differentiated pay plan that met local needs to provide options for excellent teachers who want to remain in the classroom but continue to contribute to their students and colleagues in other ways, such as mentoring new teachers, earning endorsements to teach a hard-to-staff subject or becoming a technology coordinator. Over three school years, New York districts, such as Greece Central School District (see sidebar), worked with school leaders, unions and teachers to develop in-district career opportunities for teachers to lead efforts based on school needs, such as serving English learners or leading parent engagement events. Rhode Island's Providence Public School District changed its principal compensation system so that base pay varies by school characteristics, and year-to-year increases are based on how the school improves.

Teaching to Lead in Greece, New York

About 1,000 teachers serve 12,000 students in Greece Central School District (CSD), New York's eighth-largest district. Under the leadership of former superintendent Barbara Deane-Williams, Greece CSD designed and implemented a teacher-leader pathway. "Teachers and principals are critical to improving student achievement. If both are engaged in high-quality, team-based professional learning centered on improving the rigor and quality of student work, then learning outcomes will improve. Teachers and school leaders need voice and agency in securing support from each other and the district offices who serve them," explained Deane-Williams. To build a culture consistent with this vision, the district created a teacher-leader program to provide excellent teachers with opportunities to continue teaching while supporting colleagues to improve their practices. School and district leaders empower teachers with the time and professional flexibility to develop and implement solutions to issues they believe need to be addressed in their classrooms and school buildings. For example, to meet a need for improved student attendance and engagement, teachers might lead an effort to work with community members to infuse their curriculum with local experiences, develop a character education program or coordinate support services.

"The job of a teacher-leader is to meet the emerging needs of teachers. Their job is not to implement initiatives, but to push boundaries and encourage collaboration. For example, administrators often spend a lot of time convincing teachers to implement curriculum. In Greece, we offer the curriculum and agree that there are multiple pathways to get results. The teacher-leaders facilitate those pathways," said Deane-Williams. Every teacher may have participated in training related to college- and career-ready standards, for example, but teacher-leaders create opportunities for their colleagues to experiment with instructional practices in ways that make sense for teachers and students. A day in the life of a Greece teacher-leader looks different at each building but may include mentoring a new teacher, working on a lesson plan, co-teaching in a classroom or observing instruction.

Thirty-two teacher-leaders split their time evenly between their own classrooms and working with colleagues over a four- or five-year period. In the beginning, it was difficult to determine what teachers needed and which teachers needed help. But as Lisa Farina, a teacher-leader, explained, "A year later, no one was asking for direction. It was critical that we stayed in the discomfort to figure out the emerging needs." Because teacher-leaders are in multiple classrooms in their schools, they are uniquely positioned to prepare useful and meaningful professional development for and with their colleagues. "Teacher-leaders are still teaching," explained principal David Richardson, "so the information they bring about the staff's professional needs is much more in depth. The information is coming from practice and collaboration." He added: "Teacher-leaders now run weekly professional development and our teachers are asking more questions." "Staff willingly participate and we now have a way to explore who has answers in our building," shared Sally Brothers, a teacher-leader.

Students at Arcadia High School in Greece CSD are also contributing to efforts to reshape teaching and learning. Twelfth-grader Imani Coleman explained that students wanted their English 12 course to cover texts and provide opportunities for students to wrestle with concepts they will face after leaving high school. "There was a lack of learning about other people, and we wanted a course that focused on multiculturalism. We modified the course to make it more seminar based with written open responses. We also modified the content to be more focused on student and current affairs, which gave us a chance to explore issues like racism or homophobia without feeling awkward," Coleman explained.

Christopher Marino, Greece CSD's former Teacher Leadership Development Director, described their approach: "This career pathway model and the success of our teachers and students is sustained by the teachers, students and teacher-leaders themselves. Teacher leadership provides an innovative system for teachers to have the opportunity to remain in the classroom teaching our students, as well as work with adults in a leadership role."

Ensuring that high-needs students have excellent teachers

During the grant period, Race to the Top states experienced mixed success with their approaches to ensuring that students in high-poverty and high-minority schools had access to excellent teachers and leaders. The District of Columbia's Office of the State Superintendent of Education made grant awards to three teacher residency programs that graduated 161 teachers into 15 District of Columbia Public Schools and charter schools in hard-to-staff areas, such as early childhood, mathematics and science. Maryland, Georgia, Tennessee and North Carolina supported programs to develop cohorts of teachers for shortage areas such as STEM, with varying success, as not all enrolled candidates completed the program and not all candidates were ultimately placed in high-needs schools. Many Race to the Top states also supported alternative certification programs that placed hundreds of teachers in high-needs schools and subjects, such as special education, mathematics, and science.

Ultimately, states found that ensuring students in high-poverty and high-minority schools have access to excellent teachers and leaders requires multiple strategies to recruit, place, retain, and develop teachers and school leaders. Hawaii, Georgia and the District of Columbia reported that their plans to use financial bonuses to attract teachers to high-need areas did not effectively increase teacher applications or transfers to high-need schools, which caused them to consider other approaches to providing all students with access to excellent teachers. Where this kind of financial bonus did not work, states and districts are considering other strategies to retain and reward excellent teachers and leaders in high-need areas, such as differentiated compensation in Tennessee (see above) and teacher-leader pathways in New York. In these efforts, Race to the Top districts and schools are at an advantage because they already are implementing teacher and leader evaluation systems that provide information about teacher and leader practice across multiple measures.

A multipronged approach is showing signs of success in the District of Columbia. Prior to Race to the Top, the District of Columbia Public Schools put in place both a high-stakes performance evaluation system (IMPACT) and instructional coaches to support classroom practice. A 2013 study found that this combination improved the performance of teachers and increased the percentage of low-performing teachers who voluntarily left the district. As district and school leaders across Race to the Top states improve their professional development training, increase their career pathways and refine implementation of evaluation systems, they may be better positioned to introduce policies and practices that increase the effectiveness of the teacher workforce in high-minority and high-poverty schools.

Collaborating with teacher preparation programs to establish pipelines of high-quality teachers

Ohio, **Rhode Island** and **North Carolina** publicly share aggregated data on certification, employment and student outcomes related to teacher candidates from their state's teacher preparation programs.

Excellent teaching begins in the programs that prepare teachers. Therefore, in addition to focusing on supporting teachers already in k–12 classrooms, Race to the Top states worked with teacher training programs to ensure that novice teachers are prepared for the demands of the classroom, from the very first day of school. In addition, every Race to the Top state developed methods to collect information on the performance of teacher preparation programs and their graduates' performance once in the classroom. Many publicly report this information, including, for example, Tennessee, Rhode Island and North Carolina. One Tennessee leader explained the purpose of publicly releasing this information and providing highlights of the most successful preparation programs in the state: "Our intent is that the report cards will help institutions identify both what they do well and where there is room for growth based on the outputs of their graduates. We hope that as institutions share best practices and learn from both the data in the reports and from each other, teachers across the state will enter classrooms more prepared to be as effective as possible right out of the gate."

"We hope that as institutions [of higher education] share best practices and learn from both the data in the reports and from each other, teachers across the state will enter classrooms more prepared to be as effective as possible right out of the gate."

— SEA leader on **Tennessee**'s Report Card on the Effectiveness of Teacher Training Programs

Massachusetts, for example, recently revised its preparation program approval standards to require programs, among other things, to focus on field-based experiences and demonstrate the program's collaboration with districts and impact on students in those districts. Massachusetts developed a program review process aligned to the new approval standards and implemented it with 393 teacher preparation programs in the 2014–15 school year.[17] A state leader at the Massachusetts Department of Elementary and Secondary Education reflected: "We recognize that this is hard, but we know it is important to have the right conversations about whether our programs support district needs. Our programs are telling us that the new standards and process are encouraging a conversation that would not normally have happened." Based on the state's needs assessment, which asks each teacher preparation program to demonstrate the need for its program and its ability to meet that need, 107 programs closed and 27 phased out their programs, representing about a third of programs that were scheduled for program reviews.

Through extensive meetings with stakeholders, **New York** redesigned teacher preparation programs, infusing them with clinically rich experiences designed to better prepare new teachers for their entrance into the field.

New York supported 13 graduate and undergraduate teacher preparation programs to pilot an approach to bridge the gap between instructional theory and practice and the realities of the classroom. The programs provided candidates with opportunities to experiment with new instructional approaches with students in high-needs schools under mentor guidance. Through mentoring and 10-month classroom residencies in 57 high-need

[17] In Massachusetts, a "program" may be an undergraduate elementary education program or a postgraduate program to teach English in grades six through eight, for example.

"It was like I was already a mile into this year-long race, whereas other teachers I worked with were entering at the starting line."

— First-year biology teacher in **New York** on her readiness for the classroom, because of New York's clinically rich teacher preparation program

schools, these programs graduated 530 teachers by June 2015. An associate dean at a participating school of education explained, "Having a veteran master teacher observe you in the class that many times makes a difference. For the students who go through the program, they know how to develop a full lesson plan. And they know how to engage a class because they had the benefit of a program that really taught them how to teach." Nearly 90 percent of the 407 graduates from the first two cohorts are teaching in New York schools serving high-need students. New York also revamped its curriculum for teacher candidates at teacher preparation programs in the City University of New York and the State University of New York systems. The changes refocused coursework on clinically rich experiences that give teacher candidates opportunities to practice classroom strategies, such as developing students' critical thinking skills and using data to improve instruction.

Looking ahead

Teachers and leaders in Race to the Top states and districts have made significant progress toward developing evaluation and support systems to improve teaching and learning based, in part, on growth in student learning. Because Race to the Top states engaged in this work at all levels of the education system and at each stage of a teacher's career, stakeholders in the k–12 system and institutions of higher education now share a common vocabulary on teacher and leader quality.

Moving forward, Race to the Top states may build on this work as they continue to explore the strategic use of professional development and coaching opportunities to support retention of effective teachers and leaders in high-needs schools. District and school leaders will continue to play an important role in implementing teacher evaluation systems to ensure that classroom observations, feedback cycles and measures of student learning accurately capture teacher performance and growth in student learning. Finally, teacher and leader preparation programs are poised to advance their work with state and district partners to ensure that future teachers and leaders are ready for students on the first day of school.

Data Systems and Technology to Improve Instruction and Support Students

Data and Informing the Public

As Brookings Institution scholars argued in 2015, federal regulations require data on school performance to be accessible to the public.[18] Without question, the *ESEA* data reporting requirements increased transparency and allowed parents, students and the public to better evaluate the impact of government spending on education. The district- and school-level data states reported under *ESEA* in the early 2000s provided Americans with a more complete picture of what children in their own communities knew and were able to do at the end of each school year. Importantly, the data quantified the extent of opportunity and achievement gaps within and across school districts, highlighting the unequal access to high-quality education.

[18] Grover J. Whitehurst, Martin R. West, Matthew M. Chingos, and Mark Dynarski, *The Case for Annual Testing* (Washington, D.C.: The Brookings Institution, 2015), http://www.brookings.edu/research/papers/2015/01/08-chalkboard-annual-testing.

Parents, educators and communities need easy access to timely, accurate and relevant data about what is working for students and what is not. Data inform teachers about gaps in student learning and areas where they need to seek alternative instructional methods to meet student needs. Data help parents monitor their children's progress in meeting academic achievement standards. Data help principals identify where teachers are excelling, so teacher expertise and practical wisdom can be tapped. High-quality data can also help states identify the schools and districts that need targeted supports and break down silos of work within and across systems to focus efforts on solving the problem at hand and making the best use of limited resources. With increased transparency and access to data comes the responsibility to ensure confidentiality of student information and conformance with federal and state privacy protection laws.

Even before federal data requirements were implemented under ESEA, districts and schools collected data to support operational and instructional decisions. However, there were typically multiple processes in place to collect data and, oftentimes, a mix of both paper and electronic records. Teachers kept records of student performance on classroom tests and other measures of student achievement, but that data may not have been shared with other teachers who taught the same students in other subjects. Even if a school or district collected all its data electronically, typically, there were multiple electronic systems that were not linked, making it difficult to cross-reference and analyze information. Therefore, using data to make administrative or instructional decisions was limited. In 2009, prior to Race to the Top, states had made progress in collecting and producing accurate and reliable data to meet the reporting requirements under ESEA. However, the data were reported to the public in ways that were often difficult to access, understand and interpret.[19] Some states and districts also struggled to provide student achievement data in a timely manner or in a format that was useful to teachers and school leaders. The presence, amount and accessibility of educational data changed greatly from 2001 to 2010, but one challenge remained: the effective use of data at the school level.[20]

[19] U.S. Department of Education, *State and Local Implementation of the No Child Left Behind Act: Volume IX – Accountability Under NCLB: Final Report* (2010), http://www2.ed.gov/rschstat/eval/disadv/nclb-accountability/nclb-accountability-final.pdf.

[20] Jeffrey C. Wayman, Stephen D. Spring, Melanda A. Lemke, and Meghan D. Lehr, *Using Data to Inform*

Race to the Top states invested in new technology to provide teachers and school leaders with real-time data on student progress that could be used to improve instruction and personalize learning to meet the needs of their students. Teachers use student performance data to zero in on gaps in understanding and develop targeted and streamlined interventions to address those gaps. Online systems make resources, such as instructional materials aligned to standards, classroom assessment items and online learning forums, easily accessible. These resources allow teachers to take advantage of their colleagues' expertise, rather than "reinvent the wheel" each time they prepare a lesson or develop a plan to meet a particular student's learning needs. Race to the Top states also improved their existing statewide data systems to provide easy access and regular updates on the progress and performance of schools and districts for students, parents, researchers and the public, while protecting personally identifiable data.

"I found it very helpful, now, to have a one-stop shop for information and data. . . . I love the charts and the graphics I'm able to produce and print. They are great for communicating with parents and the community."

— **Georgia** principal on "the Tunnel," Georgia's integrated longitudinal data system

Developing high-quality, integrated data systems

Race to the Top states increased transparency and accountability by making objective information on student outcomes at the school, district and state levels easily accessible to their stakeholders. For example, the District of Columbia developed and regularly updates www.LearnDC.org, an interactive website that allows the public to compare historical school achievement data. Ohio developed and operates a website that numerically and graphically reports progress at the district and school levels, allowing the public to answer important questions about every district and school, such as "Did students make a year's worth of growth?" and "Are students succeeding, regardless of income, race, ethnicity or disability?" Similarly, Massachusetts provides data to compare schools based on changes in student achievement over time and makes this information available to the public through its District Analysis and Review Tools system.

High-quality data systems also have helped education researchers and policymakers better understand what works in education and identify areas for improvement. For example, to help shape this process, Florida, Georgia and the District of Columbia worked with stakeholders, institutions and other entities to gather available data from several different sources to address state-specific policy questions. The Georgia Department of Education collaborated with the Georgia Student Finance Commission and the State Charter School Commission to gather existing data from a number of sources to examine the relationship between course-taking patterns in secondary mathematics and subsequent success in college mathematics.

Practice: Effective Principal Leadership Strategies. Presented at the 2012 annual meeting of the American Educational Research Association, Vancouver, British Columbia, Canada. Available at http://edadmin.edb.utexas.edu/datause/papers/Wayman%20Spring%20Lemke%20Lehr%20Principal%20Data%20Use%20Strategies.pdf.

To support the work of teachers, school leaders and district leaders, Georgia, North Carolina and Florida successfully created separate, secure data system platforms that integrate information and resources from multiple systems at the state and district levels.

Georgia's data system, known locally as "the Tunnel," links local data with state data-system platforms to provide teachers and leaders with seamless access to both state and school district data sources. Every teacher can access individual data on the students they teach, as well as aggregated data on student performance at the classroom, school and state levels. Teachers can then cross-link these data to thousands of corresponding standards-aligned instructional materials in every grade and subject through the Teacher Resource Link. Georgia's integrated system means that teachers and principals can access information more efficiently and use their time and expertise to address the individual needs of students. One Georgia principal explained how she used the Tunnel to easily access information to help communicate with parents and other stakeholders: "Quite often, when we were looking at test scores or a student's attendance history, the permanent record was incomplete or the child transferred from another school. I have found it very helpful, now, to have a one-stop shop for information and data about students. I love the charts and the graphics I'm able to produce and print. They are great for communicating with parents and the community." Approximately 70 percent of all teachers statewide regularly access resources in the Tunnel. Georgia's approach to successful data system implementation and use is depicted on page 42.

Georgia's technical approach was so successful that when Rhode Island encountered challenges with its own system, the RSN connected Rhode Island leaders with Georgia data leaders to learn from their success. Since Georgia's foundational system was written as open-source code, Rhode Island was able to take advantage of Georgia's success and create a similar platform for its own schools.

North Carolina's Home Base system connects information across 12 different platforms to provide seamless access to a range of resources and information designed for different audiences. Students can access their assignments, grades and learning activities. Parents can view the academic expectations of their own children and their children's attendance records and grades. Teachers and principals use Home Base to access student data, as well as best practices in teaching and learning strategies to address the specific needs of the children they teach. Every North Carolina teacher and principal has secure access to over 38,000 standards-aligned instructional resources, over 80,000 classroom

assessment items, online learning forums and performance reports for the students they teach.[21] Teachers and principals also can access information about the teacher and leader evaluation system (e.g., the evaluation rubric, classroom observation protocols and resources for professional growth). Training and leadership supports provided during the Race to the Top grant period helped introduce the system and increase its use. Nearly 99 percent of North Carolina districts and 46 percent of charter districts are using their local funds to support the system in the 2015–16 school year.

North Carolina's Home Base system provides seamless access to a range of resources for students, parents, teachers and administrators.

- Students can access their assignments, grades and learning activities.
- Parents can see student attendance and grade information for their child.
- Teachers have access to achievement data and other performance and outcome data for the students they teach.
- Teachers and leaders can securely access over 10,000 standards-aligned instructional resources, over 35,000 classroom assessment items, online learning forums, teacher evaluation information and teacher professional-growth tools.
- Teachers can collaborate with each other across schools and across districts.

Florida's integrated instructional improvement and data system, CPALMS, includes longitudinal data on student performance at the district and school levels, as well as a widget-based portal for accessing a range of resources and tools for teachers. For example, teachers in all grades can access 10,000 rigorously reviewed resources in mathematics, English/language arts, science and social studies.[22] Teachers also can benefit from the work and expertise of their colleagues who have created and made available 123,000 resources and 580,000 curriculum plans using CPALMS' online tools. In addition, there have been more than 2 million uses of the standards visualization application, which helps teachers sequence standards over the course of a semester or school year.

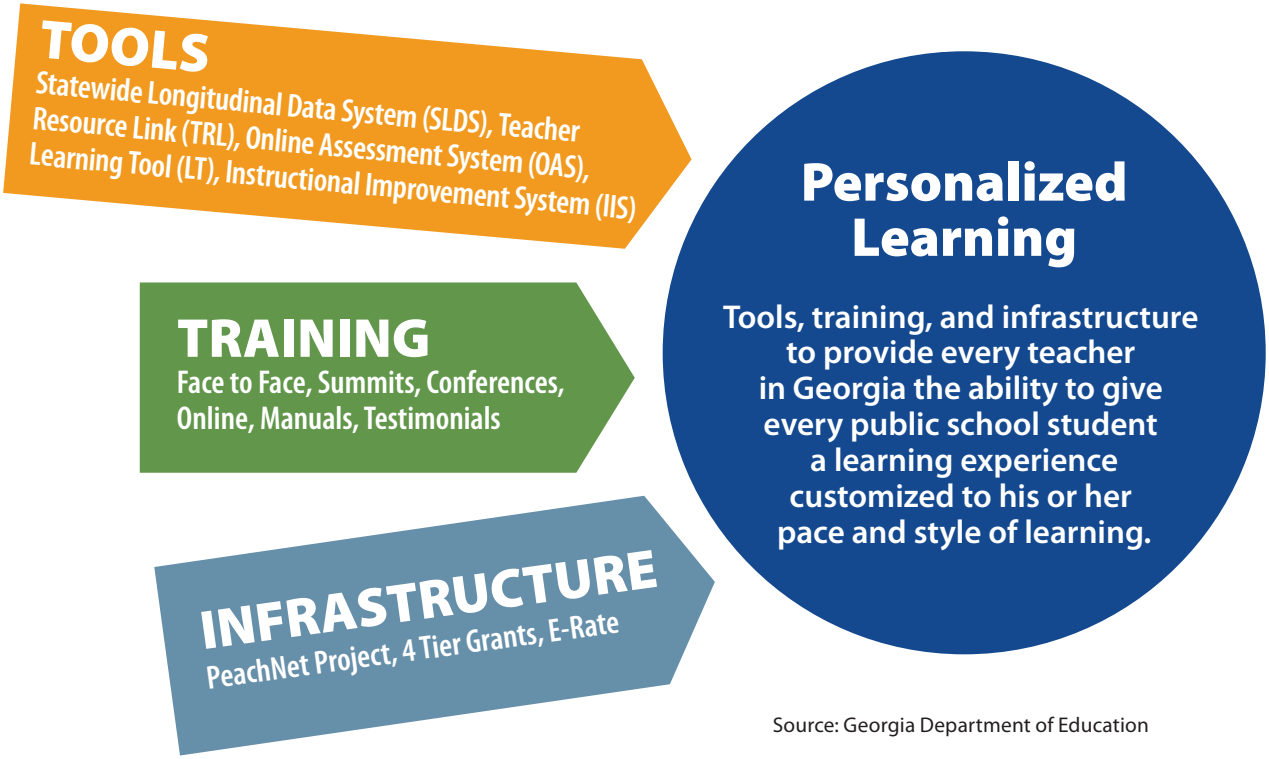
Investments in infrastructure and technology to enable more advanced data systems, digital tools, and reports came with significant challenges. Most Race to the Top states experienced challenges, in part because the system improvements envisioned in their state plans required expertise that had not traditionally been available at state or district levels. Each step of the process required sophisticated technical knowledge about data systems, from procurement to the design to ensuring the quality and accuracy of the data. States also had to consider how the data would be used and by whom, which many states reported as an ongoing area of growth.

Improving and enhancing successful data systems required skills in negotiating and working with private contractors, patience to develop technical solutions responsive to SEA and district needs, and staff at the district and school levels with the knowledge and skills to manage data. Some states experienced significant challenges and delays working with contractors and districts to ensure systems seamlessly operated across applications, were user friendly, and displayed up-to-date information. Several states had problems with the performance of private vendors they hired. For example, Rhode Island's vendor announced it would no longer support the product it created for Rhode Island, causing the state to develop an alternative system (see sidebar

[21] North Carolina reported having 97,534 teachers in the 2013–14 school year. Home Base-related figures are as of January 2015.

[22] Florida reported having 166,234 teachers in the 2013–14 school year. CPALMS-related figures are as of June 2015.

The Convergence of Data Tools, Training and Infrastructure in Georgia



Source: Georgia Department of Education

"The longitudinal data system is just one part of helping teachers personalize learning for students. Training and infrastructure are the other components needed to make it all work. We need to understand the importance of all three and invest in all three equally."

— Bob Swiggum, **Georgia**'s Chief Information Officer

titled "Cross-State Collaboration"). Massachusetts' and Ohio's vendor went out of business, leaving those states without a data platform to help teachers deliver and share instructional resources, lesson planning tools and curriculum planning tools.

Using data to improve student learning

All Race to the Top states and districts focused on ensuring that teachers and school leaders received training on how to access relevant student performance data, plan their instruction, and adjust instruction to meet the individual needs of students. One assistant principal in the District of Columbia Public Schools described the impact of this kind of training: "The focus on data cultivated a sense of urgency for me to ensure that each and every one of my students experienced growth and development." This training took several forms, depending on the state. Several states focused on training staff to work together to practice new data analysis skills. For example, in the District of

Columbia, Center City Charter School focused on training teams of staff to rigorously analyze student achievement data on English learners and use that information to streamline their curriculum and provide supports for students on specific skills; teachers also involved students and their parents in reviewing the data and setting goals so parents could work at home with their children in partnership with the school. In 2013, Center City Charter School reported the biggest achievement gains among English learners in the District of Columbia, with a 30 percent increase in English/language arts and mathematics performance. In Hawaii, each school formed data analysis and instructional teams that were trained and supported by the state. In Delaware, the state hired data coaches to work directly with school leaders and teachers to lead professional learning communities. School leaders and teachers in Georgia's Henry County Public Schools held weekly meetings to share strategies on using statewide assessment data to make instructional decisions.

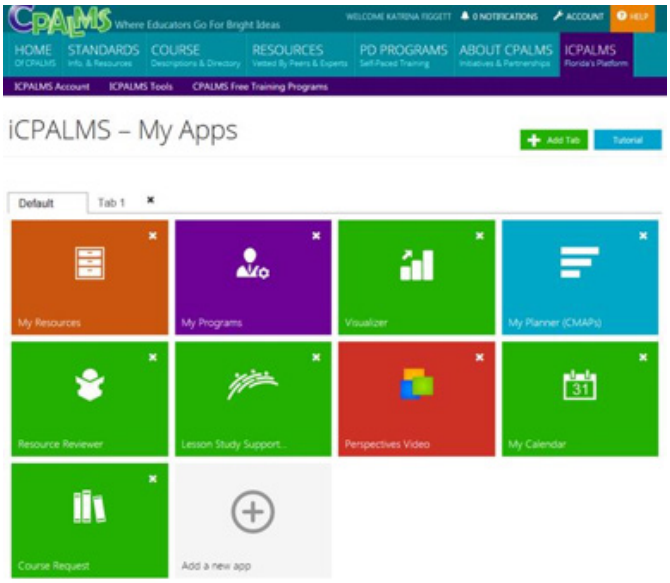
Georgia conducted in-person training on how to use data effectively and reached approximately 90 percent of their teachers. Through their Path to Personalized Learning system, Georgia's teachers and leaders have easy access to the data they need to customize a student's experience based on the student's previous performance. Georgia teacher Stacy Farrer explained how data supported her colleagues in planning a reading lesson: "We were discussing how a book we had chosen might be too hard for some of our students and how we needed to do something differently for them. We had no idea how many students this would impact. So we pulled up 'the Tunnel' and clicked on the Lexile 'less than 750' and saw all of our fourth-graders who were reading at less than the 750 Lexile. There were more students than we expected but the data allowed us to know approximately how many students would have trouble reading that selection."

Despite these successes in increasing the use of data to improve teaching and learning, several states had a slow start in getting teachers to use new data systems. In some states, such as Rhode Island, Hawaii, Ohio and Massachusetts, teachers were turned off by technical glitches and old data systems that made them reluctant to log into new data systems. Some large districts opted for their own systems rather than use a state system, for example, in Delaware. Over time, however, as data systems improved and became easier to use and understand, states report that teachers are increasing their use of new data systems and seeing the benefits of having access to better and more timely data to improve their instruction, as well as to help guide their own professional growth and development.

Cross-State Collaboration

When **Rhode Island**'s private vendor announced that it would no longer support the product it created, the state worked with **Georgia** to bring a data platform to Rhode Island schools that was similar to the platform Georgia had successfully implemented. The collaboration saved time and allowed Rhode Island to make more resources and functionality available to teachers than initially planned, including a resource library with vetted, high-quality instructional materials for teachers to adapt to meet the needs of their students.

Tools for Teachers to Tailor Learning to Student Need



FLORIDA

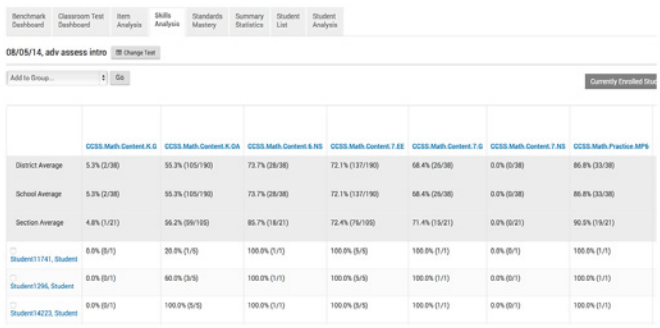
CPALMS is Florida's integrated instructional improvement and data system. Shown here is a sample teacher landing page depicting the range of resources and tools teachers can access. From here, k–12 teachers can access 10,000 mathematics, English/language arts, science and social studies resources that were rigorously reviewed. Teachers have created 123,000 resources using the iCPALMS resource authoring tool and 580,000 curriculum plans using the concept mapping tool.

Source: Florida Center for Research in Science, Technology, Engineering, and Mathematics; Learning Systems Institute at Florida State University. In the 2013–14 school year, Florida reported having 166,234 teachers.

GEORGIA

Shown here is a sample dashboard displaying aggregated student performance at the classroom, school and state levels. Teachers can cross-link from a page like this to corresponding instructional materials in every grade and subject. Georgia's system includes the longitudinal data system and local resources for teachers through the Teacher Resource Link.

Source: Georgia Department of Education



NORTH CAROLINA

North Carolina's Home Base provides seamless access to a range of resources and tools for students, parents, teachers and administrators. Shown here is a teacher report that breaks out student performance on each standard the teacher assessed. Teachers also can see how their students performed compared to others in the school and district.

Source: North Carolina Department for Public Instruction

Providing teachers and students with instructional technology

Twenty-first century schools need classrooms equipped with technology devices, high-speed broadband connectivity, and access to Wi-Fi networks. Race to the Top states invested in these infrastructure and technology systems to meet specific local needs and initiatives. For example, rural Granville County Schools in North Carolina expanded its Wi-Fi networks, an investment critical to launching Granville's "1:1 initiative" to provide a laptop to every high school student. In Roane County, Tennessee, school leaders built four distance-learning classrooms and provided supports to teachers and leaders to develop personalized learning environments that allow students to learn at a pace that best suits their needs and interests. Training also was provided on formative assessments so that teachers could gauge students' understanding in the course of a single session or over a few weeks. Roane County's initiatives were locally developed, but also were supported by the Tennessee Department of Education and its local Center of Regional Excellence. Like many school districts, Roane County had limited experience providing distance learning courses to their students, and therefore broke down traditional silos and partnered with state agencies and other technical assistance providers to meet their goals. Hawaii made significant investments to bring high-speed Internet to every student and teacher. The state transitioned completely from cable modem connections to fiber optic cables and successfully provided wireless access in all instructional spaces. Given Hawaii's unique geography, this critical investment allowed for videoconferencing, virtual field trips and digital course materials.

Rather than take a 45-minute flight, third-graders at Keaau Elementary School on Hawaii's Big Island went on a virtual field trip to study animals at Honolulu Zoo, located on the island of Oahu.

"Our kids who live in poverty don't have the experiences to put their learning in context. By incorporating technology, their understanding of content becomes much more real."

— Elementary school principal in **Hawaii**

In Citrus County, Florida, teachers and students are using hand-held devices and accessing Wi-Fi networks to more efficiently and regularly assess student comprehension throughout a given lesson. Using this information, teachers can quickly check on the progress of every student in their classroom and more regularly adjust their instruction based on what the data tell them.

In New York City, teachers and leaders designed and scaled promising learning models districtwide through iZone initiatives. iZone schools receive training, policy, and professional expertise and support as they design new personalized learning models. For example, the iLearnNYC project, a blended learning program that combines online and in-class teaching, scaled up from 42 to 260 schools during the grant period, allowing approximately 22,000 New York City students to enroll in the program during school year 2014–15. Another initiative, the iZone360 project, helped teachers and leaders reorganize their school's physical space, schedules, technology and budgets to better serve students. The effort added 25 additional schools, with early evaluations finding improved abilities among iZone360 students to formulate a problem, research an issue, communicate and interpret results, and direct their own learning.

Using technology to reduce costs and increase administrative efficiency

Race to the Top states made investments in technology infrastructure to modernize administrative functions. Processes that were formerly paper-based finally entered the digital era. For example, many states, including Georgia, Delaware and Hawaii, developed customized systems to support and manage the implementation of teacher and principal evaluation systems. Instead of completing paper-based documents, digital systems were developed to, for example, make it easier to report and summarize feedback from classroom observations and to ensure that each component of the evaluation cycle (e.g., student ratings, feedback sessions) is completed with every teacher and principal. Rhode Island invested in the data systems necessary to transition from a paper-based teacher certification process to a completely online system. Teachers now apply for and renew their certifications online, and any member of the public can look up a teacher's or principal's certification status in the state. Hawaii and Florida invested in technology to improve access to their multiple data systems, which many education employees use on a daily basis, such as email, time and attendance records, and financial reporting. Rather than having 10 different passwords for 10 different log-in pages, for example, teachers and leaders in these states have one password and can navigate between data systems and applications.

Building from successes with k–12 data systems, Race to the Top states linked to data systems at programs that train teachers and principals. Race to the Top states like Tennessee, Rhode Island and North Carolina now can examine the success of these programs in training future teachers and principals to meet the needs of today's students. These SEAs are positioned to release this information to the public in order to inform education policies around teacher equity and teacher preparation program quality.

Looking ahead

All Race to the Top states increased transparency and accountability by greatly enhancing their data systems to provide better and more timely information for students, parents, teachers, school leaders and the community about how well their schools and districts are preparing students for college and careers. Many Race to the Top states invested in new technology that, together with improved data systems, allow teachers to effectively and quickly check on students' progress and understanding in the course of a single session or over a few weeks. Teachers are using this real-time data, along with instructional resources developed by their colleagues, to continuously improve their instruction to meet the learning needs of students in their classrooms. Importantly, Race to the Top states and districts ensured that teachers had dedicated time to learn from their peers about how to effectively build and utilize data to help them match lessons to student learning needs. These components — infrastructure and technology investments, data tools, and time for teachers to learn from each other — created environments in which teachers more efficiently and accurately could evaluate what worked in their classrooms. Going forward, as new technology systems and devices emerge, states and districts will need to decide how state and local funds can best be used to continue providing timely access to data that improves teaching and learning and keeps parents, teachers, school leaders, policymakers and the public informed about the progress and performance of schools and districts.

Turning Around the Lowest-Performing Schools

The nation's lowest-performing high schools produce a disproportionate number of students who drop out of school or graduate unprepared for college or careers. Chronically low-performing elementary and middle schools are part of the problem as well because their students move on to the next grade level without the foundational knowledge and skills to succeed in high school and beyond. In 2009, 5 percent of America's schools (about 1,000 schools when first identified) were identified as persistently low performing. About half of these schools were located in big cities, another third in rural areas, and the remaining in suburban areas or small towns.[23] Over half of the lowest-performing schools in 2009 were elementary schools, a fifth were middle schools, another fifth were high schools, and the remaining were "nonstandard" schools (e.g., schools with multiple grade bands, such as a k–8 school).

Under the *No Child Left Behind Act*'s accountability provisions, states and districts were responsible for publicly reporting the performance of their low-performing schools and identifying schools for improvement that missed annual performance targets for all students or particular subgroups of students (e.g., students with disabilities and English learners). But reporting, alone, did not necessarily impact classroom practices; too often, improvement efforts were small, generic and incremental. The role of districts in improvement efforts typically was limited or not well defined; often states skipped over districts in planning and implementing school improvement efforts.

Race to the Top took a different approach. Because of their efforts to coordinate Race to the Top initiatives with ongoing local, state and federal efforts to improve teaching and learning in their lowest-performing schools, Race to the Top states increased the role of districts in developing, implementing and sustaining school improvement efforts. Race to the Top states focused on making dramatic, specific changes to improve teaching and learning in low-performing schools, such as replacing school leadership, increasing

[23] Steven Hurlburt, Susan Bowles Therriault, and Kerstin Carlson Le Floch, *School Improvement Grants: Analyses of State Applications and Eligible and Awarded Schools* (Washington, D.C.: National Center for Education Evaluation and Regional Assistance [NCEE], Institute of Education Sciences, U.S. Department of Education, 2012), http://cerenc.org/wp-content/uploads/2013/04/DST-District-Level-Report-Y2-FINAL.pdf.

learning time and changing school management.[24] As a consequence, states like North Carolina, Rhode Island and Maryland reported shifting from state-led initiatives to district capacity-building as the more desired approach to effecting change in their lowest-performing schools.[25]

Maryland's Breakthrough Center

The Breakthrough Center was established exclusively to provide supports to **Maryland**'s lowest-performing schools. Created in 2008 and supported with Race to the Top funds throughout the grant period, the Breakthrough Center partners districts and schools to build capacity and create the conditions for sustained improvement. Experts provide job-embedded training, resources and tools, and lead a community of practice for staff working in the state's low-performing schools. Participants in the community of practice share research and practices that have been effective in improving teaching and learning.

Building district capacity to intervene effectively in the lowest-performing schools

States experimented with new approaches to provide districts with the supports and tools needed to assist low-performing schools and sustain improvements in teaching and learning. Making dramatic changes, such as hiring a new principal or closing a school, is extraordinarily challenging. Race to the Top states found that one of their biggest challenges was building teams at the district level to plan and implement strategies effectively that would improve outcomes over time. Training and supporting new leaders and staff required time, resources and flexibility. States found that training needed to be repeated and supports provided in multiple ways to meet the varied needs of districts and schools.

Increasing district knowledge and skills to support low-performing schools took many forms. For example, Rhode Island and Florida provided targeted summer training to help school and district leaders develop skills to effectively improve the learning environment in low-performing schools; the state supplemented the summer training with coaching and other supports during the school year. Rhode Island changed its professional development training to focus on substantive, data-driven planning on how to manage change and hold schools accountable for meeting their goals. Florida partnered with an outside organization to support rural districts with low-performing schools in developing strategic plans to intervene in these schools. New York awarded grants to districts to support coaching, mentoring and strategic planning

[24] Every state, including Race to the Top states, received funds under the School Improvement Grants (SIG) program to support implementation of four intervention models in their lowest-achieving schools: (1) 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. (2) 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. (3) School closure model: Close a school and enroll the students who attended that school in other schools in the district that are higher achieving. (4) Transformation model: Implement each of the following strategies: (a) replace the principal and take steps to increase teacher and school leader effectiveness; (b) institute comprehensive instructional reforms, (c) increase learning time and create community-oriented schools; and (d) provide operational flexibility and sustained support. Three additional SIG models were introduced in 2015; however, these models were not implemented during the Race to the Top grant period.

[25] For more information on North Carolina's rationale for strengthening connections between schools, districts and the state, see Charles L. Thompson, Kathleen M. Brown, Latricia W. Townsend, and Shanyce L. Campbell, *Productive Connections: Interventions in Low Performing Districts by the NCDPI District and School Transformation Division in 2011–12* (Consortium for Educational Research and Evaluation – North Carolina, 2013), http://cerenc.org/wp-content/uploads/2013/04/DST-District-Level-Report-Y2-FINAL.pdf. Rhode Island and Maryland reported this shift in SEA-district-school interactions during the Department's program review process.

in turning around these schools. New York also created a diagnostic tool to guide in-depth reviews of low-performing schools and trained district leaders to use the tool to conduct their own reviews. In Massachusetts, "district plan managers" were assigned to support the implementation of each school's priorities. In addition, the Massachusetts Association of School Committees created the District Governance Support Program to help districts identify and implement strong management practices and strengthen relationships between district superintendents and school committees. These targeted efforts, designed around specific district and school needs, expanded the capacity of school districts to manage the complex, comprehensive changes needed to turn around low-performing schools.

"We're hoping to see a cultural shift. We want schools to be able to… look at student outcome data… [and] look at other data, including qualitative and survey data, to see if interventions they've put in place are being rolled out well and received well."

— Jennie Weiner, University of Connecticut School of Education professor who supported **Rhode Island** with establishing its quarterly monitoring routine for the state's lowest-performing schools

At the same time, states and districts leveraged additional support and guidance from external organizations and experts. Massachusetts developed an approach for districts to vet and qualify partner organizations to help ensure that districts hired organizations with a track record of success in improving school and student outcomes and the ability to meet school and district needs.

Still, the expertise and capacity needed to manage chronically low-performing schools was not easy to come by. State education leaders in New York and Massachusetts, among others, found it hard to find individuals and organizations with the expertise, experience and understanding of local contexts and conditions to effectively support or manage low-performing schools. States also struggled with their own capacity to support districts in their school improvement efforts. Many lacked the infrastructure, including necessary protocols and procedures, to ensure a common understanding of the work to be accomplished.

Strengthening performance management practices

In order to support districts in their school improvement efforts, states often needed to help them establish performance management systems that focused on identifying problems, setting goals to solve them and using data to track progress. To develop effective performance management systems to routinely monitor a school's progress toward reaching goals, Race to the Top states worked with districts to (a) set ambitious, clear and measurable goals and outcomes; (b) align resources (time, money and people) with their priorities and establish clear roles and responsibilities; (c) collect, analyze and monitor data to inform continuous improvement, provide feedback and make decisions; and (d) make decisions to continue or end practices based on data. Georgia, for example, trained "school improvement specialists" to work directly with school-level staff to conduct this cycle of performance reviews and ensure that school improvement decisions were anchored in student needs and supported by data.

Developing School Turnaround Leaders

Leading efforts to turn around a low-performing school requires a special set of skills. Several Race to the Top states developed programs specifically tailored to train school leaders for this difficult work. **Florida** developed two leadership academies to train school leaders as instructional leaders in low-performing schools: the Gulf Coast Partnership for Job-Embedded Principal Preparation Program at the University of South Florida and the Principal Rapid Orientation and Preparation in Educational Leadership program (PROPEL) at Florida Atlantic University. **North Carolina** created a leadership curriculum to train regional school administrators to do the intense work needed to dramatically change a school's culture and outcomes. **Rhode Island** partnered with New York City's Leadership Academy and the Principal Residency Network to train and provide planning time for school teams in low-performing schools. **Ohio** established a School Turnaround Leader Program to strengthen leadership skills among nearly 300 principals of low-performing schools.

Because many low-performing schools had long histories of extensive challenges, several states worked with their districts to develop attainable interim goals and track progress toward meeting them. For example, Rhode Island instituted quarterly sessions with district and school leaders focused on interim school goals (e.g., implementing a particular instructional strategy) and data showing the immediate outcomes of interventions (e.g., information from classroom walkthroughs, and teacher surveys). Through the process of focusing on interim goals and tracking leading indicators of progress toward those goals (e.g., attendance, chronic absenteeism, suspensions and teacher attendance) throughout the year, instead of waiting until the end of the year to review progress, Rhode Island leaders developed stronger partnerships with schools and districts to solve problems. At one Rhode Island school, the number of student absences dropped from 358 during the first 30 days of the 2013–14 school year to 256 during the same period in the 2014–15 school year. Chronic absenteeism was cut in half in the fall quarter compared with the previous spring. "Traditionally, you heard the state was coming, and you wanted to run the other way. But now," said one district leader, "we feel like this is a great support to us." Some districts have begun conducting their own quarterly meetings with schools to use data to track progress toward interim goals. New York awarded grants to "dissemination" and "replication" schools that had made progress in closing achievement gaps so they could partner with schools in need of support to close their achievement gaps. The successful strategies from these dissemination and replication schools were made available as resources for other schools across the state. In Florida, the SEA supported statewide communities of practice, which included school, district and higher education leaders, and provided a meaningful way for teachers and leaders to share resources and help each other see what progress looks like.

State leaders in Delaware, Florida, Maryland, New York, North Carolina, Rhode Island and Tennessee worked together to strengthen their performance management practices to drive and sustain school turnaround successes. Staff from each state held joint work group meetings to share effective practices, examine their management processes, identify priorities and implement action plans to put in place strong performance management systems. This collaboration resulted in tangible improvements in each state's performance management practices. For example, New York implemented an online data collection tool to aggregate data on turnaround progress metrics and established protocols for data meetings to facilitate open communication and collaborative problem solving between state and district teams. The work group guided New York in the design, communication and implementation of these new data collection and analysis practices, as well as prototypes for the online data collection tool. Rhode Island developed detailed guidance for

"We changed our thinking to take on a more modern type of leadership, where we are thinking about students first, where we are instructional leaders and we're solving problems differently and we are working to help all students."

— PROPEL program graduate

turnaround data reporting and structured routines for state meetings with schools and districts. The work group provided in-person feedback on the effectiveness of their routines and data reporting practices. Jennie Weiner, a University of Connecticut School of Education professor who advised Rhode Island on implementing these practices, explained: "We're hoping to see a cultural shift. We want schools to be able to…look at student outcome data…[and] look at other data, including qualitative and survey data, to see if interventions they've put in place are being rolled out well and received well."

In a self-assessment of their use of data and performance monitoring routines, state leaders reported they had increased their use of such routines to engage districts in collaborative problem solving, and improved their abilities to align the SEA's work with what districts and schools needed to successfully implement interventions.[26] As a result of the cross-state work group's efforts, the RSN developed the School Turnaround Performance Management Toolkit to provide an online repository of tools and resources all states can use to improve the management of school turnaround efforts.

Results

In the 2013–14 school year, growth in student learning in **Hawaii**'s "Zones of School Innovation" and in **Tennessee**'s Achievement School District outpaced each state's average growth.

Creating networks of turnaround schools for targeted improvement

Hawaii and Tennessee addressed their chronically low-performing schools by grouping them together to try something dramatically different. Most of Hawaii's lowest-performing schools were in two particular geographical areas, so Hawaii created two "Zones of School Innovation" that targeted the lowest-performing schools and the schools responsible for educating the students who enter the lowest-performing schools (i.e., the "feeder" schools). Schools in the two zones transitioned to college- and career-ready standards and adopted components of the state's teacher evaluation system earlier than other schools in the state. Teachers and leaders at schools in each zone shared problems, identified solutions and engaged the local community in refining those solutions. Community partnerships also helped sustain student and teacher supports, including the provision of student health services. At the end of the 2013–14 school year, Hawaii reported that student achievement growth in the zones outpaced the state's average growth, student absenteeism decreased 11 percent and on-time graduation rates increased by 7 percent.

Tennessee created a new school district, the Achievement School District (ASD), that included schools ranked academically in the bottom 5 percent of Tennessee's public schools. The state provided additional opportunities for schools in this new district, including targeted technical assistance,

[26] Participating Race to the Top states completed self-assessments with the RSN in summer 2013 and again in fall/winter 2015.

communities of practice for teachers and leaders to share successful strategies, support to become a charter school and expanded professional development opportunities for teachers. At the same time, Tennessee connected school leaders and teachers with peers who were making substantial changes to improve student learning. At the end of the 2013–14 school year, 86 percent of parents gave ASD schools grades of A's and B's, and 92 percent of teachers recommended the Achievement School District as a great place to work. In the 2014–15 school year, Tennessee saw student achievement gains statewide in mathematics and science, and growth in student learning in ASD outpaced state growth in grades three through eight, demonstrating that schools were responding positively to changes.

Tennessee, Massachusetts and North Carolina

- High school students in Tennessee's Achievement School District showed some of the fastest-growing achievement gains in the state on Algebra I, English I and Biology I assessments.
- Lawrence Public Schools in Massachusetts reversed a three-year decline in English/language arts proficiency rates on the state assessment.
- Over four school years, North Carolina reported that 83 percent of the state's schools that were initially in the bottom 5 percent of performance are no longer in the bottom 5 percent.

Source: Achievement School District Year Two results, http://achievementschooldistrict.org/wp-content/uploads/2015/01/ASD-Second-Year-Results.pdf; Massachusetts closeout submission to the Department; and North Carolina closeout submission to the Department.

Partnering with communities

Community involvement, inside and outside the school building, enables districts with low-performing schools to better identify issues and design strategies to address problems. For example, communities in several districts in Massachusetts recognized the importance of comprehensive services and community coordination to provide students with social, emotional and health services. Massachusetts supported the development of six "Wraparound Zones" in Fall River, Holyoke, Lawrence, Springfield, Worcester, Lynn and Wareham. Each Wraparound Zone met student needs with services that schools are not traditionally equipped to provide, including medical, psychological, and social services, and provided academic resources for all students and families.

Over three years, the approach led to improved school climate and family engagement in all of the districts that implemented it. Students in Wraparound Zone schools performed better on the state assessment in English/language arts and mathematics than students in other schools with similar achievement trends, particularly third- and fourth-grade students. Ten of the 15 schools that began implementation in 2011 improved student outcomes and were no longer listed as low-performing schools at the end of the 2013–14 school year. Low-performing schools that provided wraparound services also were more likely than low-performing schools not providing such services to be removed from the list of low-performing schools. Massachusetts school and district leaders captured their lessons learned in a "wraparound replication cookbook."

In addition to the academic and teacher and leader supports described earlier, Hawaii coordinated wraparound services for students in its Zones of School Innovation. Wraparound coordinators worked with local medical facilities and cultural organizations to provide medical care, mental health counseling, group counseling and nutritional education. Student absenteeism fell 11 percent over the course of a single school year. Given this success, the Hawaii Department of Education gave these schools the budgetary flexibility to continue providing wraparound services after the end of the grant period, in addition to academic supports.

These examples show that when teachers, schools, districts and states work together and in partnership with communities, teaching and learning in the nation's lowest-performing schools can improve and break the cycle of educational failure.

Positive Trends: Partnering With Communities and Families

Massachusetts Wraparound Zone Schools

Massachusetts students in Wraparound Zone schools performed better on the state assessment in English/language arts and mathematics than students in other schools with similar achievement trends, particularly third- and fourth-grade students. Students with limited English proficiency demonstrated strong academic results after the third year. Ten of the 15 schools that began providing wraparound services in 2011 improved student outcomes and were no longer listed as low-performing schools at the end of the 2013–14 school year.

Source: American Institutes for Research, *Evaluation of the Wraparound Zones Initiative* (submitted to the Massachusetts Department of Elementary and Secondary Education, June 2015), http://www.doe.mass.edu/research/reports/2015/06WZI-ReportFour-Supp.pdf.

Baltimore City Schools Partner With Families

Commodore John Rogers Elementary and Middle School is in a North Baltimore, Maryland neighborhood that has high rates of gang violence and teen pregnancy. Ninety-five percent of students are eligible for free or reduced-price lunch, and many students are below grade level in reading when they enter. With support from the state and district, the school focused on strengthening family engagement. Parents were invited to three conferences each year, where students presented evidence of the progress they had made (e.g., papers they had written and science experiments they had conducted). Ninety-five percent of parents regularly attended these conferences. The school held parent focus groups to hear their concerns and feedback, and hundreds of parents attended social gatherings to learn about upcoming changes that would affect teaching and learning at school.

Over the last four years, outcomes have improved dramatically. The school doubled its enrollment, significantly reduced chronic absenteeism, and achieved a 20 percent increase in reading and mathematics proficiency.

Looking ahead

Improving student achievement in the lowest-performing schools is hard work that takes time, sustained effort and resources. Race to the Top states learned that building and sustaining local capacity to improve these schools depends on having partners who understand the local contexts and conditions to effectively manage low-performing schools. Several Race to the Top states have demonstrated that providing the necessary supports and resources, which are often substantial, to their lowest-performing schools makes a difference for students. North Carolina, for example, reported that 83 percent of the original 118 schools identified as being among the state's lowest-performing improved their overall performance over four school years and are no longer in the bottom 5 percent of schools; 67 percent are no longer in the bottom 10 percent of schools. Furthermore, North Carolina reduced from nine to zero the number of schools with graduation rates below 60 percent.

Massachusetts established a "Level 5" designation for districts that are both low achieving and not showing signs of substantial improvement in student achievement over time. The authorities and flexibilities of a "Level 5" designation empower the state to appoint a "receiver" to initiate an ambitious, accelerated reform agenda so that students receive the quality of education they need to meet the state's high standards. Lawrence Public Schools, Massachusetts' first Level 5 district, showed that strong leadership and collaboration with the teachers union can generate results. The district provided school-level instructional flexibilities, data experts supported school and district progress monitoring, and the district and union established a new compensation structure. At the end of the 2013–14 school year, the state reported that the district doubled the number of high-performing schools and reversed a three-year negative growth trend in reading. The district's example has prompted state education leaders to support targeted action in schools and districts at risk of becoming low performing.

Moving forward, states and districts must leverage the lessons learned from successful approaches to school improvement to break the cycle of failure in other low-performing schools. Race to the Top states are incorporating their successful practices, such as performance management routines, into their accountability and support frameworks under their *ESEA* flexibility plans[27] and improving their ability to balance accountability and support for school improvement.

There continues to be significant debate about strategies and models to turn around low-performing schools — how effective they are in turning around schools, how best to implement them, and how to select the strategies or model for a particular school. Continued research is needed to answer these questions. In the meantime, states will continue to pursue additional strategies to intervene in schools that fail students year after year. The urgency for this work remains unchanged, as many thousands of students still attend low-performing schools without other options.

[27] In September 2011, the Department invited each SEA to request flexibility regarding some specific requirements of the *Elementary and Secondary Education Act of 1965*, as amended (*ESEA*) in exchange for rigorous and comprehensive state-developed plans designed to improve educational outcomes for all students, close achievement gaps, increase equity and improve the quality of instruction.

Conclusion

Race to the Top addressed the urgent need to improve the nation's education system so that millions of students can graduate from high school better prepared to succeed in a global economy and achieve their full potential. The program differed from past efforts, not only because of the amount of competitive funds, but also because states developed and implemented comprehensive plans to improve entire systems rather than just one or two isolated elements. In order to implement their comprehensive plans, SEAs in Race to the Top states became leaders for change and forged an unprecedented and wide range of partnerships with principals, teachers, parents, local officials, nonprofits, institutions of higher education and other stakeholders to support the effective implementation of their comprehensive improvement agendas.

Every Race to the Top state made progress toward meeting the goals established in its application, and every state faced challenges in meeting its goals. State leadership had to take the time to build stronger communication networks with districts and work more collaboratively than was typical in the past. Despite these challenges, Race to the Top states reached important milestones, sparked significant improvements in teaching and learning, and created powerful momentum for educational improvements across the nation.

For many Race to the Top states and districts, the initiatives they implemented during the grant period have remained priorities that SEAs are now better equipped to support and continue. For example, Delaware's performance management system did not exist prior to the grant period and will continue without Race to the Top funds. The state also will continue to implement, as part of its state capacity-building plan, its data analyses and biannual conversations with district leaders to better understand what is happening in districts and develop supports that match local needs. Through its district budget plan approval process, Delaware also is encouraging districts to use available funding streams to support work they found to be effective in their schools, such as using allowable federal funds for professional supports for teachers.

Going forward, states are looking for ways to leverage existing resources, prioritize their efforts and find new ways to be more efficient by tailoring their support to districts based on identified needs. States must ensure that infrastructures, such as reliable data systems and up-to-date technology, are maintained and that districts and schools have the resources to implement programs that students need. Massachusetts' SEA, for example, is considering

using the data dashboards developed in its data systems plan to help communicate progress to stakeholders, including the governor and legislature, on priority goals in technology and data use, curriculum and instruction, school and district turnaround, and student success after high school. Hawaii will continue to plan for and monitor progress on each of six priority strategies developed through its state capacity plan. These areas include academic review teams, college- and career-ready standards, comprehensive student support systems, formative instruction and data teams, educator effectiveness systems, and induction and mentoring for new teachers.[28]

For many Race to the Top states and districts, the initiatives implemented during the grant period remain priorities that SEAs are better equipped to implement and support as a routine part of meeting the needs of their students. Race to the Top states anticipate future gains and progress from these systems-level investments.

Today, perhaps the legacy of Race to the Top can best be found in the way that teachers, principals, administrators and others are working even more urgently and collectively to solve their most pressing challenges. Teachers are actively seeking the best resources to prepare their students to meet rigorous college- and career-ready standards and to lead fulfilling lives. Superintendents, school boards, teachers, and state and district officials are wrestling with ways to refine their teacher and principal evaluation systems so that they better reflect the elements most essential in identifying effectiveness in the classroom. Principals in the lowest-performing schools are working to put in place the right conditions to ensure that their students can grow and thrive.

Today and into the future, the country is working toward the goals the President set out to achieve for the nation's children when he first announced the vision for Race to the Top: Better standards. Better teaching. Better schools.

[28] Massachusetts' and Hawaii's approaches to sustaining their Race to the Top work are detailed in *Sustaining Reform: Six States Reassess Priorities for the Future* (RSN, August 2015), available at http://www2.ed.gov/about/inits/ed/implementation-support-unit/tech-assist/sustainingreform.pdf.

Data Notes

Please note the following when interpreting graduation rate data:

States submit four-year adjusted cohort graduation rates to the U.S. Department of Education's ED*Facts* Reporting System through File Specification 150, Data Group 695 (rates) and File Specification 151, Data Group 696 (cohort counts). Details about the file structure can be found at http://www2.ed.gov/about/inits/ed/edfacts/file-specifications.html.

The four-year adjusted cohort graduation rate is the number of students who graduate in four years with a regular high school diploma, divided by the number of students who form the adjusted cohort for the graduating class. From the beginning of ninth grade (or the earliest high school grade), students who are entering that grade for the first time form a cohort that is "adjusted" by adding any students who subsequently transfer into the cohort and subtracting any students who subsequently transfer out, emigrate to another country or die.

Data included are the four-year adjusted cohort graduation rates (ACGR). Some states calculate extended rates for accountability purposes, but those rates are not included in the visualization produced for this report.

The following formula provides an example of how the four-year adjusted cohort graduation rate would be calculated for the cohort entering ninth grade for the first time in the 2008–09 school year and graduating by the end of the 2011–12 school year:

$$\frac{\text{Number of cohort members who earned a regular high school diploma by the end of the 2011–12 school year}}{\text{Number of first-time ninth-graders in fall 2008 (starting cohort) plus students who transferred in, minus students who transferred out, emigrated or died during school years 2008–09, 2009–10, 2010–11 and 2011–12}}$$

Although the regulatory adjusted cohort rates are more comparable across states than were rates submitted in previous years under the *Elementary and Secondary Education Act of 1965*, as amended (*ESEA*), there are still some differences in how states have calculated their rates. These differences include how students are identified for inclusion in certain subgroups, how the beginning of the cohort is defined, whether summer school students are included, graduation requirements, and which diplomas count as a regular high school diploma. This particularly impacts data related to students with disabilities and English learners, since states have flexibility in how they include students in those subgroups for the purpose of graduation rate calculations.

Detailed information on the adjusted cohort graduation rate can be found in the Department's 2008 High School Graduation Rate Non-Regulatory Guidance: http://www2.ed.gov/policy/elsec/guid/hsgrguidance.pdf.

Some states are still making improvements in their data systems and ACGR calculations; as a result, large changes in graduation rates may be a result of those changes, rather than actual improvement or decline.

Please note the following when interpreting data on enrollment in institutions of higher education:

States submit college enrollment data to the U.S. Department of Education's ED*Facts* Reporting System through File Specification 160, Data Group 739. Details about the file structure can be found at http://www2.ed.gov/about/inits/ed/edfacts/file-specifications.html.

College enrollment, as defined by the Department's collection, is "the number of graduates from two years prior to the current school year who enrolled or did not enroll in an IHE within 16 months of receiving a regular high school diploma."

An IHE is an institution of higher education.

Citation for SY 2012–13: http://www2.ed.gov/about/inits/ed/edfacts/eden/non-xml/c160-9-0.doc (page 2).

Citation for SY 2013–14: http://www2.ed.gov/about/inits/ed/edfacts/eden/non-xml/c160-10-0.doc (page 2).

Due to the two-year lag in the definition, the most current data available are on the class of 2012, so there is limited information on this data point since Race to the Top reforms went into effect.

Use caution when comparing IHE enrollment rates and changes. Data collection systems across states vary widely in quality and availability of data. States have varying requirements for what it means to earn a regular high school diploma.

Some states reported low values for the count of students for whom they had no information on postsecondary activities or the count of students who did not enroll in IHEs, possibly due to individual state methods for calculating IHE enrollment rates.