



# BEYOND HIGH STANDARDS: SUPPORTING THE COMMON CORE TO IMPROVE STUDENT LEARNING

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Standards have been at the center of the education reform movement in America for almost three decades. Beginning in the early 1980s, state leaders began to take seriously the task of defining what students should know and be able to do in all schools, in order to help ensure that all students were held to equally rigorous standards. In so doing, they created the academic standards that would become the foundation upon which state accountability and assessments, teacher and principal evaluations, and classroom-level curriculum and instruction would be built.

Since then, every state has articulated content standards for at least four core content areas—English language arts, math, science, and social studies—and often more. These standards list the knowledge that states expect students to learn and the skills they expect students to master at each grade level. These standards are—or should be—the targets to which state assessments are aligned; the basis upon which curricula, textbooks, and instruction are created; and the targets to which students, teachers, and leaders are held accountable.

However, the fact that this work was done in every state does not mean it was done well. Analyses of the quality of state standards have found few that are clear, comprehensive, and grade-appropriate. Far too many state standards are vague, fail to prioritize essential content and skills, or include serious content gaps and omissions, making it unlikely that students across a state are held accountable for learning the same material. In fact, reports released over the past decade by both the American Federation of Teachers and the Thomas B. Fordham Institute show that state standards range from the clear, comprehensive, and rigorous, to the poorly organized, vague, and weak, with the overall average for the nation ending up, perhaps unsurprisingly, somewhere in the middle.<sup>1</sup>

Since then there has been a push to raise the quality of state standards and to make the most of these standards through the adoption of rigorous assessments, strong accountability, and effective implementation. To that end, in 2009, the Council of Chief State School Officers and the National Governors Association came together to develop a set of common academic standards for English language arts and math. In 2010, a final draft of those standards was released, and to date, 45 states and the District of Columbia have adopted the Common Core State Standards. These standards have the potential to improve the quality of instruction and outcomes for U.S. students—but their impact will ultimately depend on the quality of state and local-level implementation.

## What Do High-Quality Standards Look Like?

Experts generally agree on several principles that can be used to judge the quality of state standards. Separate analyses conducted by the Thomas B. Fordham Institute and by the American Federation of Teachers agree that quality academic standards have four things in common:<sup>2</sup>

***1. Standards list the specific content students must learn to be college- and career-ready.***

In order to lay a solid foundation upon which rigorous curricula and instruction will be built, standards must not only list the skills that students should master, but also the specific content that students must learn in each core content area.<sup>3</sup> Unfortunately, the most common limitation of

the standards is the failure to clearly and specifically delineate what, precisely, students should know and be able to do.

It can be difficult—and often politically unpopular—to get specific about what students *need* to learn. But in order for standards to effectively inform curriculum and ensure that all students learn necessary content, they must delineate what exactly the important content is.

### ***2. Standards need to be grade-appropriate.***

Standards must be sufficiently rigorous. This is particularly important for poor and minority students, who may be held to a lower standard than their white, more affluent peers. Many state standards set the bar too low, particularly for younger students. For example, according to a 2012 analysis of state science standards, many state K-8 standards fail to introduce important content until high school, even though it could easily be introduced sooner.<sup>4</sup>

But it is equally important to ensure that expectations do not set unrealistically high goals for the grade level. Some state standards may ask students to do more than may be developmentally appropriate for their age. Such “aspirational” standards limit the usefulness of standards for informing instruction, create an impossible task for teachers, and set students up for failure.

### ***3. Standards need to prioritize and align essential content within and across grades.***

Too many state standards prioritize breadth over depth. In contrast to the standards used by countries that lead in international comparisons, the standards and curricula used in U.S. public schools are “a mile wide and an inch deep.”<sup>5</sup> This leaves teachers to prioritize content themselves—defeating the express purpose of academic standards, which is to delineate a common expectation for what students should know at each grade level.

Further, high-quality standards must be vertically aligned across grades so that what students learn in each grade lays a foundation for the content and skills they will learn the following year, building seamlessly toward the ultimate goal of college- and career-readiness. If, for example, a state decides that a student must master pre-calculus content before graduating in order to be college- and career-ready, then states must ensure that their K-8 content standards delineate what students must learn in grades 4, 6, and 8, to be prepared to tackle rigorous college-preparatory material in high school. In order to vertically align content in this way, states need to focus the standards within each grade on the essentials, rather than repeating a broad range of topics every year.

### ***4. Standards need to be clearly written and free from jargon.***

The purpose of standards is to drive classroom-level planning and instruction. But too many standards are written in language that is vague or jargon-filled, making it difficult for teachers to understand what, specifically, their students should know and be able to do.<sup>6</sup> High-quality standards must be clearly written and designed for use by educators.

## Common Core Adoption and Implementation

To address concerns about the variability and lack of rigor or clarity in state standards, the National Governors Association and the Council of Chief State School Officers came together in 2009 to create the Common Core State Standards—a set of clear, comprehensive, and grade-appropriate standards for English language arts and math that detail the knowledge and skills that students need to be college- and career-ready. In doing so, state leaders acknowledged not only the need to improve the quality of state standards, but also a need to ensure that students are held to common standards across states, not just within them. In June 2010, the final drafts of the Common Core standards for ELA and math were released, and to date, 45 states and the District of Columbia have adopted them.<sup>7</sup> Expert reviews indicate that these standards represent an improvement over the current standards in many states. The Thomas B. Fordham Institute’s *State of State Standards—and the Common Core—in 2010*, gave the Common Core standards an A- in math and a B+ in ELA, stating that both sets of standards are “solidly in the honors range” and clearer and more rigorous than the vast majority of state math and ELA standards.<sup>8</sup>

By adopting the Common Core, states have taken a critical step toward improving education outcomes for all students.

But rigorous standards are just a starting point. Experience with state standards demonstrates that even the most rigorous standards don’t necessarily lead to improved student achievement. California and Indiana, for example, have standards that are consistently rated among the strongest in the nation by both the American Federation of Teachers and the Fordham Institute,<sup>9</sup> but student achievement in both states has stagnated during the past decade. The percentage of Indiana fourth-graders scoring “below basic” on the National Assessment of Education Progress barely changed between 2003 and 2011. California has made modest achievement gains, but more than half (58 percent) of low-income fourth-graders score below basic on the NAEP in reading.<sup>10</sup> How states implement and support the Common Core standards will be critical in determining whether or not they result in improvements in student learning.

### Using Standards to Improve Student Achievement: Massachusetts

Massachusetts has strong content standards and has made gains in student achievement, while other states with *equally* strong standards have not.

Massachusetts students perform at or near the top of the NAEP assessments across all subgroups and content areas, leading the nation in performance on the fourth- and eighth-grade NAEP in both reading and math.<sup>11</sup> Massachusetts’ students have also made significant gains in the past decade: Massachusetts’ fourth-graders, for instance, made greater gains in NAEP reading achievement than their peers in all but two other states. This progress has particularly benefited low-income and minority students. Massachusetts’ low-income and African American students lead the nation in fourth-grade reading and math for their respective subgroups.<sup>12</sup> Students scoring in Massachusetts’ bottom 25 percent score higher than students in the bottom 25 percent of any other state in the nation, and students in the top 25 percent in Massachusetts perform better than students in the top 25 percent of any other state. And Massachusetts’ impressive

results are not limited to NAEP—on the 2007 TIMSS exam, an international assessment of students’ skills in math and science, Massachusetts’ fourth-graders outscored their peers in most other countries, trailing only Singapore and Hong Kong and tying with Taiwan and Japan.<sup>13</sup>

Massachusetts’ standards are considered some of the nation’s best, earning top marks from both the American Federation of Teachers and the Thomas B. Fordham Institute.<sup>14</sup> And Massachusetts has linked these strong standards to rigorous assessments of student learning. The state’s assessments have some of the highest “cut” scores—the percentage of questions students need to get correct in order to pass—in the nation.<sup>15</sup> Massachusetts is one of only three states whose science proficiency scores are at or above the proficiency designation on the NAEP eighth-grade science test.<sup>16</sup>

Massachusetts has tied the results of these rigorous assessments to meaningful accountability for students, teachers, and schools. Students must pass an assessment linked to the state standards to earn their high school diploma. Massachusetts also provided supports to help students reach the standards and build teachers’ capacity to teach them. Teacher certification requirements and professional development standards are aligned with the state’s content standards. And the state invested \$100 million over five years in tutoring and supports to help high school students pass the new high school exit exam.

In short, Massachusetts improved student achievement by establishing rigorous standards, linking them to rigorous assessments, linking those assessments to meaningful accountability, and providing support for students and teachers. Each one of these pieces was critical to the state’s success.

## Effectively Implementing the Common Core

In order for standards to lead to improvements in student achievement, they must be effectively implemented and supported. Policymakers should think of standards-based reform as a “three-legged stool,” of which the first leg is clear and rigorous standards. The second is the use of regular assessments of student learning—formative, interim, and summative—to evaluate student progress. And the third is curricular and instructional materials aligned to standards and assessments.

These three elements are reflected in the practices of schools that consistently beat the odds for low-income students. These schools tend to have several things in common, including:<sup>17</sup>

1. High expectations (or standards) for all students;
2. Regular formal and informal assessment of student learning that helps measure student progress toward mastery of the standards;
3. Meticulous planning that breaks end-of-year student learning goals—as judged by, among other things, summative assessment targets—into smaller units and lessons that build upon each other throughout the year; and
4. The ongoing use of data to inform and change short- and long-term plans.

Now that states have adopted rigorous ELA and math standards through the Common Core, they must take several concrete steps to ensure effective implementation:

***1. Adopt a summative assessment that is aligned with academic standards.***

Rigorous standards are meaningless if they are not aligned—in terms of both content and rigor—with reliable assessments of student learning. Adopting reliable and high-quality summative (or end-of-year) assessments in core content areas is perhaps the most important thing a state can do to support meaningful implementation of Common Core standards.

One advantage of adopting the Common Core standards is that states no longer have to “go it alone” in developing summative assessments, or even formative and interim assessment tools. Two state-led assessment consortia (the Partnership for Assessment of Readiness for College and Careers, or PARCC, which includes 15 states as governing members, and the Smarter Balanced Assessment Consortium, or SBAC, which includes 18 states as governing members) are developing assessments that are aligned with the Common Core ELA and math standards. By joining together in assessment consortia, states can create common assessments capable of generating comparable data across states and pool resources to cost-effectively produce higher-quality assessments.

There are important differences between the two consortia. Both are creating tests that will be administered via computer, but only SBAC has plans to develop computer-adaptive assessments, in which the questions a student is asked are determined by responses to previously answered questions.

In addition, PARCC is creating and requiring end-of-course, rather than end-of-year, assessments for high school mathematics. This is significant because it means that PARCC will be dividing Common Core math standards into two course sequences—a more traditional sequence and an “integrated math” sequence. States, schools, or districts must choose which sequence their schools will offer and administer the end-of-course assessments that align to that sequence. SBAC, by contrast, is requiring only one high school exam, an end-of-year assessment that does not have the same curricular implications.

***2. Set a high proficiency bar.***

State officials must define what it means for students to be “proficient” in each grade for each assessed content area. States do this by setting a “cut score,” or passing score, on the state’s summative assessment. States can set those proficiency standards wherever they want. Currently, states differ not only in the rigor of their standards and assessments, but also in the cut scores they set.<sup>18</sup> Even if states adopt common assessments aligned with Common Core standards, it will still be possible for them to set different cut scores. In order to ensure that “proficiency” on the state assessments really translates into meeting college- and career-ready standards, states must set cut scores high enough that students who pass the assessment are actually on track toward college- and career-readiness.

***3. Identify high-quality curricular and instructional resources that are aligned with state standards and assessment.***

Ultimately, curricular and instructional decisions about what exactly to teach, when, and how, are made not at the state, but the district, school, and classroom level. States cannot develop—or even identify—one-size-fits-all curricular solutions that will work for all teachers and schools. But they can—and must—make it easier for teachers and school and district leaders to wade through the ocean of curricular resources and to identify those that are appropriately rigorous, aligned with the standards, and that will help ensure students meet the grade-specific expectations. To that end, states should work to identify resources—textbooks, curriculum materials, high-quality professional development opportunities, etc.—that will help teachers effectively implement the standards. States may also take steps to ensure that schools and teachers are able to access these resources, for example, by funding open-source resources or providing high-need schools with adequate resources to acquire materials aligned with new standards.

#### ***4. Aid in the development of interim and formative assessments.***

Summative assessments are helpful in driving state- and district-level accountability, but they are less useful when it comes to driving classroom instruction. Teachers need formative and interim assessments to track student progress; identify skill and knowledge gaps; and target instruction at the whole class, small group, or individual student levels.<sup>19</sup> To support teachers in aligning instruction with new standards, states should provide access to a variety of high-quality formative and interim assessment tools that are aligned with both the state standards *and* the curriculum materials teachers use in the classroom every day. Both the PARCC and SBAC consortia have committed to developing tools for teachers, including content frameworks that can help inform curricula, interactive data tools, and online practice tests.

#### ***5. Develop capacity for data analysis.***

Finally—and perhaps *most* important for classroom teachers—effective standards implementation depends on the use of data to drive instruction. As mentioned above, the most successful schools and districts use regular formal and informal assessment of student learning to evaluate student progress and inform short- and long-term planning throughout the year. This use of data shifts the conversation from “what has the teacher taught?” to “what has the student learned?” Merely covering material will not ensure that all students learn what they need to be college- and career-ready.

States and districts can support data-driven instruction several ways, two of which are particularly important. First, they must provide teachers with initial training and ongoing professional development to plan instruction aligned with clearly defined outcomes, to teach to those outcomes, and to regularly assess student learning and adjust short- and long-term plans based on the results of those assessments. Effective implementation of data-driven instruction also requires instructional leaders who can provide ongoing observation and feedback and support outcomes-focused and data-driven planning and instruction throughout the year (see paper in this series on instructional leadership). Districts or schools can use a variety of models to support teachers in using data, including instructional coaches who work with teachers one on one to analyze data and improve instruction, and professional learning communities in which teachers work together to analyze data, plan, and identify ways to improve instruction. The important thing is to ensure that support is consistent throughout the year to have a measurable impact on daily, classroom-level instruction.<sup>20</sup>

Second, states must develop the technology infrastructure teachers need to have quick access to summative and interim assessment data and to analyze that data on the student, class, and school level. For instance, states should have the infrastructure to score summative and, when available, interim assessments quickly. And they should consider developing online platforms that allow teachers to view data, compare results to students across the school, district, or state, and to analyze the data to determine student and class strengths and struggles. (Such data tools are already in place in traditional public school districts and charter school networks across the country, including schools operated by the New York City Department of Education and the Achievement First network of high-performing charter schools located in New York and Connecticut.)

## **A Primer on Types of Assessment**

Different types of assessments serve different purposes. Effective standards-based reform deploys a variety of assessments in different ways to assess student progress, inform instruction, and hold schools, students, and educators accountable:

### *Formative Assessment*

Formative assessments are informal, often teacher-created tests that help teachers monitor student progress and ensure that students have learned the material that was taught. Their purpose is to inform instruction and short-term lesson and unit plans. Formative assessments range from simple in-class “checks for understanding” to more formal daily and weekly quizzes.

### *Summative Assessment*

Summative assessments are designed to capture, or summarize, what students know at a particular point in time. Summative assessments are typically administered at the end of a grade or course and include a mix of objective (frequently multiple-choice) and open-ended questions to gauge student mastery of grade-specific standards. Data from summative assessments can be used to communicate whether students are on track toward college- and career-readiness. State assessments used for accountability purposes (including teacher evaluation) are summative assessments.

### *Computer-Adaptive Assessment*

A computer-adaptive assessment is a test, administered by computer that adapts to the test-taker’s ability. For instance, questions will become easier or more difficult based on whether the student answers particular questions correctly. Depending on how they are designed, these assessments can give a more targeted picture of student learning.

There are also different types of assessment items. Most test items can be divided into two groups: selected response and student-constructed.

### *Selected Response*

Selected response items include multiple-choice, matching, and true-false questions. These types of items have the advantage that they are more easily and reliably scored. But they are sometimes criticized as lower-quality or failing to engage students in higher-order thinking. In

truth, well-designed selected response questions can yield a wealth of information about student learning—for example, careful analysis of the wrong answers students choose on multiple-choice questions can help teachers identify the concepts that children are struggling with. Further, well-designed selected response items can require students to engage in higher-order thinking to reach the correct answer.

### *Student-Constructed*

Student constructed items include essays and short-answer questions. These have the benefit that they minimize guessing and require students to demonstrate knowledge, organizing, and writing skills. But they are also more costly and time-consuming to score, and because they are more subjective they may be less reliable than more-objective measures.

Ultimately, both selected response and student-constructed items have a role to play in rigorous assessments, and policymakers must balance costs and reliability concerns in determining the mix of assessment items.

## Accountability

Well-designed standards, linked to quality assessments and support for teachers, are critical steps to improving student learning. But one more step is needed. As Massachusetts' experience illustrates, standards and assessments must also be linked to meaningful accountability for results.

Review of the existing high-quality evidence finds that accountability systems in general are associated with modest gains in student learning, as measured by standardized tests.<sup>21</sup> But this is only one part of the equation: The design of accountability systems and the elements they incorporate matter. Because accountability efforts are still relatively new in education, and there are inherent difficulties in measuring the causal impacts of state-level policy changes such as new accountability systems, we don't have the evidence needed to identify particular accountability models that are more or less effective than others. Moreover, state and local context matter—what works in one place may not work as well elsewhere.

Common sense and expert opinion, however, do suggest a few features that should be included in accountability systems—particularly if these systems are intended to help narrow achievement gaps for disadvantaged students. First, accountability systems should ensure that proficiency requirements for *all* students are equally high. Expectations for disadvantaged students should be no different than for their middle-class and affluent peers. (Of course, that also means that the support provided to disadvantaged students should be higher, to help them achieve the goals set for them.) Second, state assessments should produce disaggregated data to ensure that districts and schools are helping all students meet state goals, and so the state can provide additional support when they are not. Third, the state accountability system needs to be clear and easy to understand for educators and parents alike.

Most important, if state accountability is going to drive achievement, it needs to be thoughtfully designed based on a clear theory of action about how standards, assessments, accountability, and supports will work together to improve student achievement. States should not throw together a patchwork of reforms and expect student achievement gains. Instead, education leaders and educators need to work together to ensure that all elements of the system complement each other in service of students.

### **Example: Florida's A+ Accountability System**

Florida's A+ Accountability System was established in 1999. It is based on Florida's state assessment, the FCAT, which identifies five levels of student performance, from 1 (lowest) to 5 (highest). Each school receives an annual report card that assigns one of five letter grades, from "A" through "F" (there is no "E"), or I for incomplete. School grades are based on four components:

- Student achievement:** Based on the percentage of students scoring in the top three of five performance levels on the FCAT.
- Student learning gains:** Based on the percentage of students who improve their performance by at least one level or maintain a high level of performance. Schools also get points for low-performing students who make gains of greater than one year's growth. Learning gains for the lowest-performing students are weighted extra.
- Improving achievement of lowest-performing students:** Florida schools cannot get their full letter grade unless they demonstrate that they are improving the performance of the lowest-performing students.
- The percentage of eligible students tested:** In order to earn their full letter grade, schools must test at least 95 percent of eligible students. If fewer students take the test, the grade is lowered.

School grades are widely disseminated and receive significant public and media attention. Schools that receive an "A" or improve a letter grade may receive increased autonomy and financial rewards. Schools that receive a failing grade may receive funding and support to improve, or face increased oversight from the district and State Board of Education. Schools that do not meet the progress benchmarks for their lowest-performing students must develop a school improvement plan that specifically addresses this need. Originally, students attending schools that received a grade of "F" in two out of the past four years could also receive a voucher to attend a private school, but the voucher component was struck down by a state appeals court in 2004.

From 2002 to 2009, Florida fourth-graders made greater gains on the NAEP reading assessment than students in any other state. Black, Hispanic, and English-language learner students in Florida also made greater gains than their peers in other states. Many observers and researchers attribute the dramatic improvements to the suite of reform measures Florida enacted in the late 1990s and early 2000s, which also included school choice and early literacy initiatives. Academic research suggests that Florida's Accountability Plan has the greatest impact in the lowest-performing schools. The stigma of a "D" or "F" grade and the threat of vouchers both seem to have been factors in driving these results, but it is hard to establish causality.<sup>22</sup> The A+

Plan does not seem to create as much incentive for improvement in higher performing schools (A, B, and C schools).

<sup>1</sup> Cecilia Elena Rouse, Jane Hannaway, Dan Goldhaber, and David Figlio, “Feeling the Florida Heat: How Low-Performing Schools Respond to Voucher and Accountability Pressure.” Cambridge, MA: National Bureau of Economic Research. NBER Working Paper 13681. 2007) <http://www.nber.org/papers/w13681.pdf>

## Conclusion

States have a long history of developing and implementing academic standards, but a variety of factors—including poor and varied quality of standards, low-quality summative assessments, and uneven classroom-level implementation of the standards—have prevented these standards from having the desired impacts. The Common Core standards have the potential to help raise the quality of standards and set a common metric across states, but must be accompanied by aligned well-designed and rigorous assessments, infrastructure, instructional resources, and support to ensure that they gain traction in classrooms and drive student learning and achievement. To that end, states should focus not only on setting clear and rigorous standards, but also on ensuring that those standards are combined with meaningfully aligned high-quality assessments, meaningful accountability, and a system of supports for teachers and schools, including access to data and instructional resources.

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<sup>1</sup>Sheila Byrd Carmichael, W. Stephen Wilson, Kathleen Porter-Magee, Gabrielle Martino, “The State of State Standards—and the Common Core—in 2010” (Washington, DC: Thomas B. Fordham Institute, July 2010); Jeremy A. Stern and Sheldon M. Stern, “The State of U.S. History Standards 2011” (Washington, DC: Thomas B. Fordham Institute, February 2011); Lawrence S. Lerner, Ursula Goodenough, John Lynch, Martha Schwartz, and Richard Schwartz, “The State of State Science Standards 2012” (Washington, DC: Thomas B. Fordham Institute, January 2012); “Sizing Up State Standards 2008” (The American Federation of Teachers, 2008).

<sup>2</sup> Ibid.

<sup>3</sup> The American Federation of Teachers, “Criteria for Strong Academic Standards,” retrieved April 16, 2011. <http://www.aft.org/issues/standards/contentstandards/criteria-standards.cfm>.

<sup>4</sup> Lerner et al., “The State of State Science Standards 2012.”

<sup>5</sup> William Schmidt, Curtis McKnight, Leland Cogan, Pamela Jakwerth, and Richard Houang, *Facing the Consequences: Using TIMSS for a Closer Look at U.S. Mathematics and Science Education* (Boston: Dordrecht; London: Kluwer Academic Publishers, 1999).

<sup>6</sup> “The State of State U.S. History Standards.”

<sup>7</sup> Of the 45 states that adopted the Common Core State Standards, all but Minnesota adopted the standards for both the English language arts and math. Minnesota has adopted only the Common Core ELA standards.

<sup>8</sup> Carmichael et al., “The State of State Standards—and the Common Core—in 2010.”

<sup>9</sup> Ibid; “The State of U.S. History Standards 2011”; Lerner et al., “The State of State Science Standards 2012”; “Sizing Up State Standards 2008.”

<sup>10</sup> “The Nation’s Report Card State Snapshot, Indiana,” Institute for Education Statistics, 2011, <http://nces.ed.gov/nationsreportcard/pdf/stt2011/2012454IN4.pdf>; “California State Reading 2011,” Institute for Education Statistics, 2011, <http://www.cde.ca.gov/ta/tg/nr/documents/neap11read48r.pdf>.

<sup>11</sup> “Massachusetts Students Earn Top Scores on Nation’s Report Card for Fourth Consecutive Exam Year,” Press Release, Office of the Massachusetts Governor, November 1, 2011,

<http://www.mass.gov/governor/pressoffice/pressreleases/2011/11111-naeps-results-released.html>.

<sup>12</sup> “Scale Scores, 2011,” The Education Trust, [http://www.edtrust.org/sites/edtrust.org/files/NAEP%20Grade%204-Reading\\_0.pdf](http://www.edtrust.org/sites/edtrust.org/files/NAEP%20Grade%204-Reading_0.pdf).

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<sup>13</sup> Massachusetts State Department of Education, Press Release, December 9, 2008, <http://www.doe.mass.edu/news/news.aspx?id=4457>.

<sup>14</sup> Carmichael et al., “The State of State Standards—and the Common Core—in 2010”; “The State of U.S. History Standards 2011”; Lerner et al., “The State of State Science Standards 2012”; “Sizing Up State Standards 2008.”

<sup>15</sup> Victor Bandeira de Mello, “Mapping State Proficiency Standards on NAEP Scales: Variation and Change in State Standards for Reading and Mathematics, 2005-2009” (August 2011).

<sup>16</sup> Change the Equation, “All Over the Map: Comparing States’ Expectations for Student Performance in Science” (Washington, DC: Change the Equation, December 2011).

<sup>17</sup> David Whitman, “Sweating the Small Stuff” (Washington, DC: Thomas B. Fordham Institute, 2008); Karin Chenoweth, *It’s Being Done: Academic Success in Unexpected Schools* (Cambridge, MA: Harvard Education Press, 2007); Karin Chenoweth, *How It’s Being Done* (Cambridge, MA: Harvard Education Press, 2009); Andrew Calkins, William Guenther, Grace Belfiore, and David Lash, “The Turnaround Challenge” (Boston: Mass Insight, 2007); NewSchools Venture Fund, *Acting on Data: How Urban High Schools Use Data* (San Francisco, CA: NewSchools Venture Fund, 2009).

<sup>18</sup> Change the Equation, “All Over the Map,” December 2011.

[http://www.changetheequation.org/sites/default/files/State\\_Science\\_Assessments\\_12\\_11.pdf](http://www.changetheequation.org/sites/default/files/State_Science_Assessments_12_11.pdf); Deborah Adkins, G. Gage Kingsbury, Michael Dahlin, and John Cronin, “The Proficiency Illusion” (October 2007).

<sup>19</sup> “Acting on Data: How Urban High Schools Use Data.”

<sup>20</sup> “Acting on Data: How Urban High Schools Use Data.”

<sup>21</sup> For a review of the research, see, *Incentives and Test-Based Accountability in Education*, Michael Hout and Stuart W. Elliott, eds. (Washington, DC: National Research Council, 2011).

[http://www.nap.edu/catalog.php?record\\_id=12521](http://www.nap.edu/catalog.php?record_id=12521) Although the press materials and coverage accompanying this book generally suggested negative or inconclusive findings, an analysis of the studies finds a benefit of 0.08 standard deviation in student achievement that can be attributed to accountability policies. This benefit is very modest, but meaningful in real-world terms and outweighs the costs of accountability systems by a clear margin. See Eric A. Hanushek, “Grinding the Anti-testing Ax,” *Education Next* 12:2, Spring 2012. <http://educationnext.org/grinding-the-antitesting-ax/>

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## ABOUT STAND FOR CHILDREN LEADERSHIP CENTER

Stand for Children Leadership Center is a 501(c)(3) nonprofit that provides leadership development and training to everyday citizens. Our mission is to ensure that all children, regardless of their background, graduate from high school prepared for, and with access to, college and career training. To make that happen, we:

- Educate and empower parents, teachers, and community members to demand excellent public schools.
- Advocate for effective local, state and national education policies and investments.
- Ensure the policies and funding we advocate for reach classrooms and help students.

Learn more at [www.stand.org](http://www.stand.org)

<sup>22</sup> Cecilia Elena Rouse, Jane Hannaway, Dan Goldhaber, and David Figlio, "Feeling the Florida Heat: How Low-Performing Schools Respond to Voucher and Accountability Pressure." Cambridge, MA: National Bureau of Economic Research. NBER Working Paper 13681. 2007) <http://www.nber.org/papers/w13681.pdf>