

AT A GLANCE

- The United States is an economic leader in part because of its leadership in education during the 20th century. Now other countries are working hard to expand and improve education, and we've lost our leading edge. Four decades ago, the United States had the best high school graduation rate in the world, but now it ranks 18th out of 24 industrialized countries. As recently as 1995, the United States was still tied for first in the proportion of young adults with a college degree, but by 2000 it had slipped to 9th and by 2006 to 14th – below the average of the industrialized world.
- Content standards are the foundation of a state's education system, articulating the knowledge and skills that students should acquire at every grade level; however, a number of questions persist regarding the quality, variability, and cost of state standards.
- Curricular standards in the top-achieving countries are focused, rigorous, and coherent. United States state standards generally are not.
- Though it is important to articulate the goals for student performance, the act of standards-setting alone is not sufficient to ensure students master them. Assessments indicate what students know and how well they know it. Teachers are ultimately responsible for translating and organizing the standards into instruction or courses. Accountability can help set system-wide targets and solutions.

QUESTIONS TO CONSIDER

- Is the education system in my state providing all students with opportunities to learn and achieve high standards and graduate high school prepared for college and the workforce?
- What opportunities exist to improve my state's education system through participation in the common core state standards initiative?
- What are the catalysts and obstacles for state adoption of internationally benchmarked and evidence-based standards?
- Do my state's assessments accurately measure the knowledge and skills needed for students to be successful in postsecondary education and careers?
- Do I have information that tells me whether students in my state are performing on par with other high-performing and economically advanced countries?

Education is a tremendously important lever for ensuring competitiveness and prosperity in the age of globalization.¹ Recent economic studies show that high skills lead to better wages, more equitable distributions of income, and substantial gains in economic productivity. Higher math performance at the end of high school translates into a 12 percent increase in future earnings. If the United States raised students' math and science skills to globally competitive levels over the next two decades, its GDP would be an additional 36 percent higher 75 years from now.²

Many experts have concluded that since the United States can no longer compete in quantity of human capital, it will have to compete in quality by providing its young people with the highest level of math, science, reading, and problem-solving skills in the world. But so far, the United States has not responded to this skills challenge. Out of 30 industrialized countries participating in the Organisation for Economic Co-operation and Development's Programme for International Student Assessment (PISA) in 2006, the United States ranked 25th in math and 21st in science achievement (*see Figure 1*). The United States' global position is slipping not because its schools are getting worse. Rather, the United States is losing ground because its education outcomes have mostly stagnated while those in other countries have surged.

Figure 1: U.S. 15-Year-Old Performance Compared with Other Countries

Programme for International Student Assessment (PISA)

- Average is measurably higher than the U.S.
- Average is measurably lower than the U.S.

Mathematics (2006)		Science (2006)		Reading (2003)		Problem Solving (2003)					
Rank	Score	Rank	Score	Rank	Score	Rank	Score				
1	Finland	548	1	Finland	563	1	Finland	543	1	Korea	550
2	Korea	547	2	Canada	534	2	Korea	534	2	Finland	548
3	Netherlands	531	3	Japan	531	3	Canada	528	3	Japan	547
4	Switzerland	530	4	New Zealand	530	4	Australia	525	4	New Zealand	533
5	Canada	527	5	Australia	527	5	New Zealand	522	5	Australia	530
6	Japan	523	6	Netherlands	525	6	Ireland	515	6	Canada	529
7	New Zealand	522	7	Korea	522	7	Sweden	514	7	Belgium	525
8	Belgium	520	8	Germany	516	8	Netherlands	513	8	Switzerland	521
9	Australia	520	9	United Kingdom	515	9	Belgium	507	9	Netherlands	520
10	Denmark	513	10	Czech Republic	513	10	Norway	500	10	France	519
11	Czech Republic	510	11	Switzerland	512	11	Switzerland	499	11	Denmark	517
12	Iceland	506	12	Austria	511	12	Japan	498	12	Czech Republic	516
13	Austria	505	13	Belgium	510	13	Poland	497	13	Germany	513
14	Germany	504	14	Ireland	508	14	France	496	14	Sweden	509
15	Sweden	502	15	Hungary	504	15	United States	495	15	Austria	506
16	Ireland	501	16	Sweden	503	16	Denmark	492	16	Iceland	505
17	France	496	17	Poland	498	17	Iceland	492	17	Hungary	501
18	United Kingdom	495	18	Denmark	496	18	Germany	491	18	Ireland	498
19	Poland	495	19	France	495	19	Austria	491	19	Luxembourg	494
20	Slovak Republic	492	20	Iceland	491	20	Czech Republic	489	20	Slovak Republic	492
21	Hungary	491	21	United States	489	21	Hungary	482	21	Norway	490
22	Luxembourg	490	22	Slovak Republic	488	22	Spain	481	22	Poland	487
23	Norway	490	23	Spain	488	23	Luxembourg	479	23	Spain	482
24	Spain	480	24	Norway	487	24	Portugal	478	24	United States	477
25	United States	474	25	Luxembourg	486	25	Italy	476	25	Portugal	470
26	Portugal	466	26	Italy	475	26	Greece	472	26	Italy	469
27	Italy	462	27	Portugal	474	27	Slovak Republic	469	27	Greece	448
28	Greece	459	28	Greece	473	28	Turkey	441	28	Turkey	408
29	Turkey	424	29	Turkey	424	29	Mexico	400	29	Mexico	384
30	Mexico	406	30	Mexico	410						
OECD average		498	OECD average		500	OECD average		494	OECD average		500

Source: Organisation for Economic Co-Operation and Development and U.S. Department of Education.

Research has revealed striking similarities among the math and science standards in top-performing nations, along with stark differences between those world-class expectations and standards in most U.S. states.³ Standards in the best-performing nations share three characteristics not commonly found in U.S. standards: *focus, rigor, and coherence*.

In recognition of the need to raise standards across the United States, a majority of states are participating in the common core state standards initiative led by the National Governors Association Center for Best Practices and the Council of Chief State School Officers, in partnership with Achieve, Inc, ACT, and the College Board. This is a state-led process that will draw on evidence and lead to the development and adoption of a common core of state standards in English language arts and mathematics for grades K-12. These standards will be aligned with college and work expectations, include rigorous content and skills, and be internationally benchmarked. The intent is that these standards will be aligned to state assessments and classroom practices. The second phase of this initiative will be the development of common assessments aligned to the core standards developed through this process.

Content standards are the foundation of a state's education system, articulating the knowledge and skills that students should acquire at each grade level. Superintendents, principals, and teachers develop curricula and make program decisions based on those standards. Assessments intend to measure how well students have achieved these standards. Accountability systems report student outcomes, allowing policymakers to evaluate and respond to the effectiveness of their education investments.

With the adoption of the common core, participating states will be able to:

- Articulate to parents, teachers, and the general public expectations for students;
- Align textbooks, digital media, and curricula to the internationally benchmarked standards;
- Ensure professional development for educators is based on identified need and best practices;
- Develop and implement an assessment system to measure student performance against the common core; and
- Evaluate policy changes needed to help students and educators meet the common core standards and “end-of-high-school” expectations.

State assessments help policymakers determine whether their education investments result in academic gains. Many states now work with test publishers to develop customized tests that align with their state content standards. States pay a high price for these assessments; customized tests can be five times more expensive than off-the-shelf tests.⁴ Despite customization of tests and external reviews, *half of the state tests administered each year do not align with state academic standards.*⁵ In part, this is because most state standards include too many topics to be taught in a school year, much less evaluated in a single test.

As states establish world-class standards and adopt other policies based on international best practices, leaders will want information on whether students are benefiting from the changes and are meeting higher expectations. A study of the practices of 10 countries that have developed national standards recommends the administration of national assessments (including open-ended questions) at grades 4, 8, and 12 every two years.⁶

Though states have been developing standards-based education systems for the past two decades, what is distinct and most promising about this current effort is that the common core state standards will be based upon evidence about the knowledge and skills students need to succeed in postsecondary education and workforce training programs and draw from the standards of top-performing states and nations.

Special thanks to Ilene Berman of the National Governors Association Center for Best Practices for her preparation of this brief.

AT A GLANCE

- State laws and regulations touch upon every aspect of the teaching profession, yet there is room for improvement in state policy when it comes to determining whether or not an individual is an effective teacher.
- Research has shown that teacher quality – more than any other school-based variable – drives student achievement.
- There is much state policymakers can do to bolster their laws and regulations in support of teacher effectiveness, such as:
 - use their longitudinal data systems to provide some of the evidence needed to assess teacher effectiveness;
 - require instructional effectiveness to be the preponderant criterion of any teacher evaluation;
 - provide support – but not indefinitely – to teachers who receive negative evaluations;
 - ensure that tenure decisions are meaningful;
 - close loopholes that allow teachers who have not met licensure requirements to teach; and
 - hold teacher preparation programs accountable for the quality of their graduates.

QUESTIONS TO CONSIDER

- Does my state's data system have the capacity to provide evidence of teacher performance? If so, is it being used to do so?
- What are my state's teacher evaluation requirements? Do they provide districts with appropriate guidance about teacher evaluation? Does my state ensure that evidence of student learning is the preponderant criterion in teacher evaluation?
- Are the instruments used for teacher evaluation validated instruments? Are those responsible for teacher evaluation trained to use the instrument?
- Does my state provide support for teacher professional development based on the results of evaluations? Does my state articulate consequences for negative evaluations?
- When is tenure awarded to teachers in my state? Are there any requirements for districts to follow in awarding tenure?
- Are teachers in my state allowed to teach without passing all licensure requirements?
- How does my state hold teacher preparation programs accountable?

Ensuring that every classroom has an effective teacher is one of the most vital education goals states face, a goal critical to improving student achievement and closing achievement gaps. Requirements that states address teacher effectiveness in order to receive *American Reinvestment and Recovery Act (ARRA)* funds have further magnified attention on this issue.

The research is quite clear on the difference an effective teacher makes. Researchers Sanders and Rivers analyzed student performance using value-added data from the Tennessee Value-Added Assessment System. They found that an 8-year old student at the 50th percentile with consistently effective teachers – those in the top 20 percent – was likely to be at the 90th percentile three years later. In comparison, a similar low-performing student with consistently ineffective teachers – those in the bottom 20 percent – was likely to be in the 37th percentile three years later. That is a difference of 53 percentile points between students with the same starting point, based on the quality of their teachers.⁷

Despite a plethora of teacher policies touching upon every aspect of the teaching profession, there is room for improvement in state policy when it comes to actually determining whether or not an individual is an effective teacher. This brief offers strategies states can consider for bolstering their laws and regulations in support of teacher effectiveness. These strategies are based on analyses of states' teacher policies included in the National Council on Teacher Quality's *2008 State Teacher Policy Yearbook*.⁸

Strategies states may consider in addressing teacher effectiveness include:

- **Use the state data system to provide some of the evidence needed to assess teacher effectiveness.**
A teacher is effective if he or she has a positive impact on student learning. While there are many ways – both objective and subjective – to measure student learning, a comprehensive state data system should provide value-added data that can be considered among the criteria used to determine teachers' effectiveness. *Nineteen states have a data system with this capacity, but only two use value-added data to assess teacher effectiveness.*
- **Structure teacher evaluations so that instructional effectiveness is the preponderant criterion.**
Nearly all states set at least rudimentary requirements about the content and frequency of teacher evaluations. Unfortunately, these guidelines allow for too many evaluation instruments – some developed at the local level, others by states – that are structured so that teachers can earn a satisfactory rating without any evidence that they are sufficiently advancing student learning in the classroom. Many evaluation instruments give as much weight, sometimes even more weight, to factors that do not have any correlation with student performance, such as taking professional development courses or sponsoring an extracurricular activity. Evaluation instruments should include objective evidence of student learning, which need not be limited to standardized test scores (*see box*), as well as factors such as classroom observations that require human judgment.⁹ *Only four states require evidence of student learning to be the preponderant criterion in teacher evaluations. Just 15 states require any objective measures of student learning. Twenty-two states do not even require that teacher evaluations include classroom observations.*

Sources of Objective Evidence of Student Learning

Many educators struggle to identify sources of objective student data. Potential sources for evidence of student learning include:

- Standardized test scores
- Periodic diagnostic assessments
- Benchmark assessments that show student growth
- Artifacts of student work connected to specific student learning standards. These can be randomly selected for review by the principal or senior faculty and scored using rubrics and descriptors.

- **Provide support – but not indefinitely – to teachers who receive negative evaluations.** Teacher evaluations are too often treated as mere formalities, rather than as important tools for rewarding good teachers, helping average teachers to further develop their skills, and holding weak teachers accountable for poor performance. State policy can send an important message to districts and schools about the importance of evaluations so that teachers and principals alike take their consequences seriously. Accordingly, state policy can articulate that teachers who receive negative evaluations should be placed on improvement plans. These teachers should receive support and additional training; however, opportunities to improve should not be unlimited. *Just 26 states require that teachers who receive even one unsatisfactory evaluation are placed on an improvement plan. Only 13 states specify that teachers who have been rated unsatisfactory on multiple evaluations should be eligible for dismissal.*
- **Base tenure decisions on evidence of teacher performance.** Most states award teachers tenure after three years or less with no required review of teacher effectiveness. States can require districts to evaluate evidence of effectiveness before awarding tenure. States can also extend the tenure decision to five years in order that sufficient data on a teacher can be accumulated and to make this decision the milestone in a teacher's career that it deserves. A large increase in pay may coincide with the awarding of tenure based on effectiveness. *Forty four states allow teachers to earn tenure in three years or less; three states award teachers permanent status after a single year of teaching. Only two states (Iowa and New Mexico) require any evidence of teacher effectiveness to be considered as part of tenure decisions. All other states permit districts to award tenure virtually automatically.*
- **Close loopholes that allow teachers who have not met licensure requirements to teach.** Licensure tests are meant to ensure that an individual meets the minimum qualifications to be a teacher. While states may need a regulatory basis for filling classroom positions with a small number of people who do not hold full teaching credentials, too many states have loopholes that allow teachers who have not passed licensure tests to remain in the classroom year after year, putting the instructional needs of students at risk. *Twenty-two states permit teachers to remain the classroom for three years or more without passing all required licensing tests. Just seven states require teachers to pass all tests before entering the classroom.*
- **Hold teacher preparation programs accountable for the quality of their graduates.** A major weakness in the teacher quality equation is linked to the fact that most states do little to hold teacher preparation programs accountable for their admissions standards, program content, or, most importantly, the quality of their graduates. *Only 17 states require teacher preparation programs to make basic skills testing a condition of admission. Only 18 states collect any meaningful objective data that reflect program effectiveness. States do an even poorer job of holding alternate route preparation programs accountable.*

Special thanks to Sandi Jacobs of the National Council on Teacher Quality for her authorship of this issue brief.

AT A GLANCE

- Effective state-driven intervention in persistently low-performing schools has become an urgent priority for several reasons:
 - **Schools “aging” through accountability systems:** Federal and state accountability systems are now seeing an increasingly large number of schools reach the final, most intensive category of under-performance: *restructuring*.
 - **Poor outcomes from current strategies:** An expanding body of research and expert consensus holds that the most common state intervention strategies employed on behalf of these lowest-performing schools have not and will not significantly improve student outcomes.
 - **Prominent federal priority:** The ARRA targets low-performing schools as one of its four key priorities for education reform and is injecting significant new funding in this area (including \$3 billion for interventions through Title I, up from \$500 million in FY2009). Strong intervention in low-performing schools – also known as school turnaround – is a major priority of the federal government’s “Race to the Top” initiative as well.
- Persistently low-performing schools tend to be located in urban or rural areas and tend to serve populations with high percentages of poverty and children of color.
- Recent research, pointing to the characteristics of the small but growing ranks of higher-performing, high-poverty schools, emphasizes the importance of moving beyond simply changing *programs* and *people* in persistently low-performing schools, towards changing *systems* – particularly, the basic conditions under which the schools operate and their ability to make purely mission-driven decisions regarding staff, schedule, budget, and programming.
- Most current efforts that incorporate elements of this approach have been undertaken at the district, not state, level. Some of the initiatives that appear most promising in terms of the degree of transformation and early signals of markedly improved outcomes rely on strong partnerships with external organizations.

QUESTIONS TO CONSIDER

- What are the differences between *school improvement* strategies and *school turnaround*? Which is most prevalent in my state’s system?
- What role should my state play in encouraging, designing, enabling, and implementing more transformational interventions in under-performing schools?
- What role do data and data systems play in my state’s turnaround efforts?
- How does my state support the efforts of local districts in turning around low-performing schools?
- How many schools in my state are currently in restructuring? How many are projected to be in restructuring in the next several years? Does my state currently have the capacity to meet these turnaround needs at scale?

Persistently under-performing schools have been called “the crucible of school reform” in the United States.¹⁰ To policymakers at all levels, the schools that have reached NCLB’s *restructuring* category of under-performance (which reflects at least six years of continuous failure) may seem irretrievably lost.

At the high school level they are known as “dropout factories,” to use Johns Hopkins researcher Robert Balfanz’s term, with graduation rates that represent a national and local embarrassment – and a tragedy in terms of lost human capital and eventual social cost. In many urban districts, virtually all of the middle schools have now reached the most extreme categories according to state and federal accountability provisions. Meanwhile, the track record of state and district interventions in low-performing schools is bleak. Studies of a variety of state efforts, as well as extensive reviews of the outcomes of the federal government’s large-scale investments in Comprehensive School Reform (CSR), conclude that these strategies in general have proven to be too timid to be effective.¹¹ The prospects for successful intervention in these schools, to many policymakers, must seem minimal at best – and at worst, very nearly a lost cause.

And yet a growing chorus of voices within the school reform community is challenging this view, maintaining that these persistently under-performing schools represent a momentous opportunity to undertake transformational reform. After so many years of failure in these schools, there is now sufficient consensus that the status quo must change – and change significantly.

The Nature of the Challenge

The size, scope, and complexity of the challenge in addressing persistently under-performing schools is not in dispute. In *A Call to Restructure Restructuring: Lessons from the No Child Left Behind Act in Five States*, the Center on Education Policy noted that:¹²

- More than 3,500 Title I schools nationwide were in the restructuring phase in the 2007–2008 school year, which accounts for about seven percent of all Title I schools;
- The number of schools in restructuring has increased almost 50 percent between the 2006–2007 and 2007–2008 school year;
- Just under one in five schools in the “implementing restructuring” phase made Adequate Yearly Progress (AYP) in 2006–2007 – meaning, their restructuring plans did not result in their attaining yearly goals in student achievement; and
- Some schools within the five states studied (California, Michigan, Maryland, Georgia, and Ohio) have been in the restructuring phase for up to four years – meaning, in these schools, restructuring was having little or no positive effect whatsoever.

Common State Intervention Strategies

No Child Left Behind provides five options for schools entering its restructuring category. Three of the five options require changes in management and/or governance of schools (through contracting school management to an outside partner, state takeover, or conversion to a charter school). The other two options are less intrusive, involving either the “reconstitution” of the school through replacement of leadership and/or school staff, or “any other major restructuring effort” – which was left open to wide interpretation by the law’s framers.

In general, states have primarily chosen the two more benign options, and in particular, the “any other” option. In the Center on Education Policy’s five-state review, nine out of ten districts were selecting that option.¹³

Noteworthy District Intervention Strategies

During the past decade, a number of major urban school districts have responded to the challenge of low-performing schools by creating carve-outs or “zones” that are characterized by changes in operating conditions and extra investments and supports. This model was first implemented at significant scale in New York City’s “Chancellor’s Schools” initiative of the late 1990s under then-Chancellor Rudy Crew; he refined the ideas further in the Miami-Dade “Improvement Zone” initiative of 2005-2008. Philadelphia has experimented with what has become known as a “portfolio approach” to school intervention, trying out different forms of contracting with independent school management organizations along with creating its own cohort of turnaround schools.

Under then-CEO Arne Duncan, the Chicago Public Schools created a continuum of intervention strategies that includes:

- charter conversion or close-and-replace;
- re-launch as a “performance school” that is not subject to some district mandates and work rules; and
- re-launch as a “contract” school, under which management authority is assigned to an outside organization.

Chicago schools that are deemed in need of turnaround may be assigned a provider that is strong on instructional and curricular support but light on assuming management authority (or, in cases of extreme need, a partner organization that assumes control over staff, including hiring, allocation, and evaluation), school schedule, budgeting, curriculum, and all other matters relating to culture and program. These measures are only one-to-three years old, but many are showing very promising results.

Important Elements of Turnaround Design

Operating Condition	Traditional School Improvement	Comprehensive Turnaround
Program	Improve quality of current strategies <ul style="list-style-type: none"> • Consulting support • Curriculum, instruction, assessment tools, and strategies 	Re-invent program and entire school approach to suit needs of high-challenge enrollments <ul style="list-style-type: none"> • Coherent, whole-school plan • Deep commitment and strategies to address impacts of poverty on students: enabling their <i>readiness to learn</i> • Focus on the individualization of learning through transformed instructional approaches completely integrated with assessment
People	Help current staff perform at a higher level <ul style="list-style-type: none"> • Staff development, coaching • Leadership development 	Establish professional norms for human capital management <ul style="list-style-type: none"> • Turnaround leaders have authority, resources to staff the school as needed to fulfill the turnaround plan <ul style="list-style-type: none"> • Incentives to recruit highly capable teachers • Flexibility on staff hiring, allocation, work rules • Flexibility, time to make staff development coherent
Money	No real impact on budgetary authority in most cases <ul style="list-style-type: none"> • Additional resources (usually staff development) 	Authority to reallocate budget to support turnaround plan <ul style="list-style-type: none"> • Ability to reallocate budget strategically • Sufficient additional resources to support the plan <ul style="list-style-type: none"> • Pay for extra time • Pay for incentives • Pay for partner support
Time	Some initiatives adjust schedule within same-length school day and year <ul style="list-style-type: none"> • Block scheduling • Extra common planning time for educators 	Expand school day and year and reinvent schedule to implement turnaround plan <ul style="list-style-type: none"> • Significantly more time for teacher collaborating, instruction • Review and re-engineering of schedule to support plan

Drawn from The Turnaround Challenge, Mass Insight Education & Research Institute, 2007

As the nonprofit group Mass Insight Education & Research Institute indicated in its 2007 report, *The Turnaround Challenge*, the incentives that have shaped decision making at the district, school, and state level have tended to support incremental, less-intrusive reforms. Faced with the possibility of strong opposition from union leaders, community leaders, school boards, and parents, state and district leaders have calculated the pros and cons and by wide margins have chosen fairly conservative intervention strategies. Those strategies seem unlikely to receive competitive Race to the Top funding and may even have trouble gaining approval for Title I funds that are distributed on a formula basis.

The question now facing state and district leaders and reform strategists is: what to propose instead? Mass Insight, in its *Turnaround Challenge* report, recommended a set of fundamental operating conditions changes that would generate the latitude required for decision making based solely on the educational mission of schools – instead of being constrained by the needs of adults or the constraints of the current system. Mass Insight organized these conditions changes around what it calls the four basic resources of public schools: people, time, money, and program design.

The state role that policymakers will now need to develop is one that incorporates these changes in operating conditions; lays the groundwork for capacity-building partnerships with strong external organizations to help schools and districts take full advantage of this opportunity to *reinvent*, as opposed to simply improve around the edges (*see table above*); recruits and trains a new generation of school leaders who are capable of leading this kind of turnaround/reinvention effort; fosters innovation and strategy and tool design to support the new school designs; and provides sufficient “air cover” for difficult political choices, momentum, and resources for school and district leaders to make mission-driven decisions and to implement the resulting strategies effectively.

Special thanks to Andy Calkins of the Stupski Foundation for his authorship of this issue brief.

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- States have made remarkable progress in developing longitudinal data systems that can track student progress over time, from pre-kindergarten through 12th grade and into postsecondary education. In 2005, no state had all 10 essential elements of a high-quality longitudinal data system. In 2008, six states had all 10 elements, and 48 had five or more elements in place. Within the next three years, 47 states plan to have eight or more elements.
- States not only need the right data infrastructure, but also need to make sure the data is used to improve student and system performance by:
 - expanding the ability of state longitudinal data systems to link across the P-20 education pipeline and across state agencies;
 - ensuring that data can be accessed, analyzed, used, and communicated to all stakeholders to promote continuous improvement; and
 - building the capacity of all stakeholders to use longitudinal data for effective decision making.
- The *American Recovery and Reinvestment Act* (ARRA) provides states an opportunity to enhance their data systems. Three components of the ARRA support states' efforts around improving the collection, analysis, and use of longitudinal data: inclusion of data systems in the assurances for State Stabilization Funds; competitive Institute of Education Sciences State Longitudinal Data Grants (\$250 million); and inclusion of data systems in the assurances for Race to the Top (\$4.35 billion).

QUESTIONS TO CONSIDER

- Which of the 10 data elements is my state lacking? Who is in charge of managing the process to implement the remaining data elements within the next two years?
- How is my state making data accessible and user-friendly to a variety of users (e.g., parents, teachers, policymakers)? Has my state built a data warehouse? A web-based portal?
- Is it a priority in my state to link data across agencies? Does my state have a governance structure to manage this process? Does your state have a single vision for the state's human capital development system?
- Is there ongoing state support in the annual budget to ensure data infrastructure is continuously improved and updated?

Although states have made impressive progress on implementing their longitudinal data systems, too few have taken the necessary steps to ensure that the information produced by these data systems is harnessed to inform and improve the processes and outcomes of states' education efforts. This shift requires building the political will and taking the practical steps to remove current barriers to accessing, sharing, and using these data. The *American Recovery and Reinvestment Act of 2009* (ARRA) provides a strategic opportunity for states to do this by funding actions to:

- further build their P-20 longitudinal data systems and ensure data can be shared across other agencies, especially workforce;
- ensure that data collected through these data systems are accessible, analyzed, and communicated in user-friendly ways to all stakeholders – especially educators, parents, and policymakers; and
- build the capacity of all of these stakeholders to use longitudinal data for effective decision making.

10 Elements of a Statewide Data System

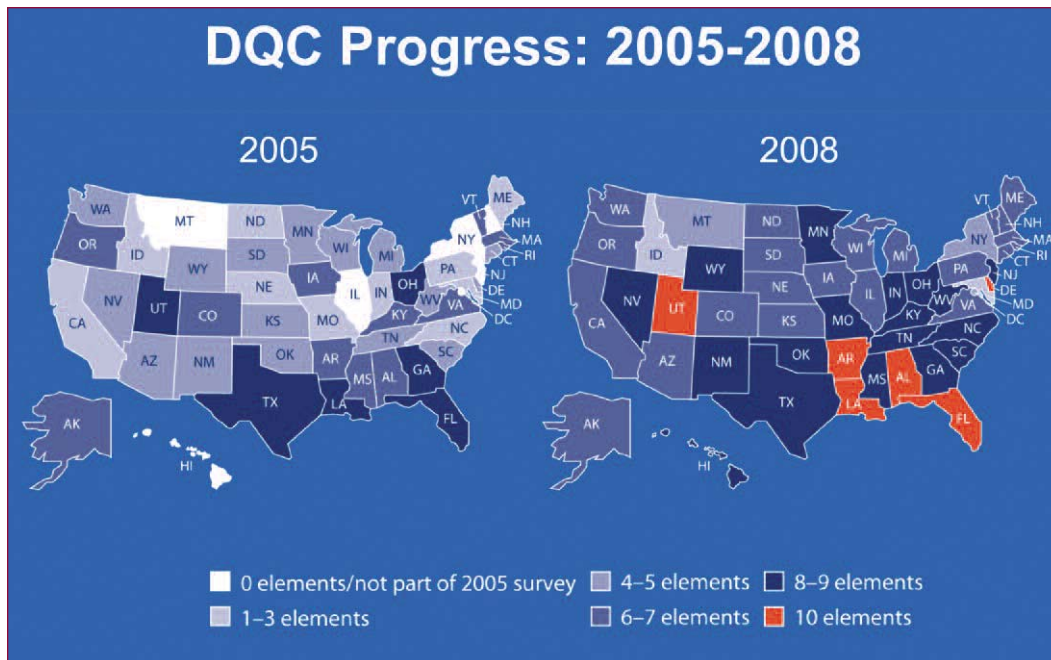
1. A unique statewide student identifier that connects student data across key databases and across years
2. Student-level enrollment, demographic and program participation information
3. The ability to match individual students' test records from year-to-year to measure academic growth
4. Information on untested students and the reasons they were not tested
5. A teacher identifier system with the ability to match teachers to students
6. Student-level transcript information, including information on courses completed and grades earned
7. Student-level college readiness test scores
8. Student-level graduation and dropout data
9. The ability to match student records between the P-12 and higher education systems
10. A state data audit system assessing data quality, validity and reliability

Source: Data Quality Campaign

When states have longitudinal data that can be shared, are user friendly and timely, and are tailored to users' needs, stakeholders can do more than just gather data, they can act on the information to:

- better define student success with transparent, well understood, and broadly accepted performance indicators;
- accurately forecast a student's readiness for key transitions from preschool through high school and into college and careers and take action as needed;
- allocate resources (e.g., time, money, and staff) based on returns on investment; and
- use data for continuous improvement, rather than solely for compliance with federal and states performance indicators.

Overall Progress on Implementing the 10 Essential Elements



Source: Data Quality Campaign

Governor's Role in Building the Political Will and Context for Using Longitudinal Data

Developing these systems and linkages requires political leadership, a single, shared statewide vision for the state's human capital development system, interagency collaboration, and a strategic plan for developing new data governance and management systems. The ARRA provides a unique opportunity to galvanize political focus and action while also providing critical funding to make these changes possible.

Longitudinal Data and the State Stabilization Fund Assurances:

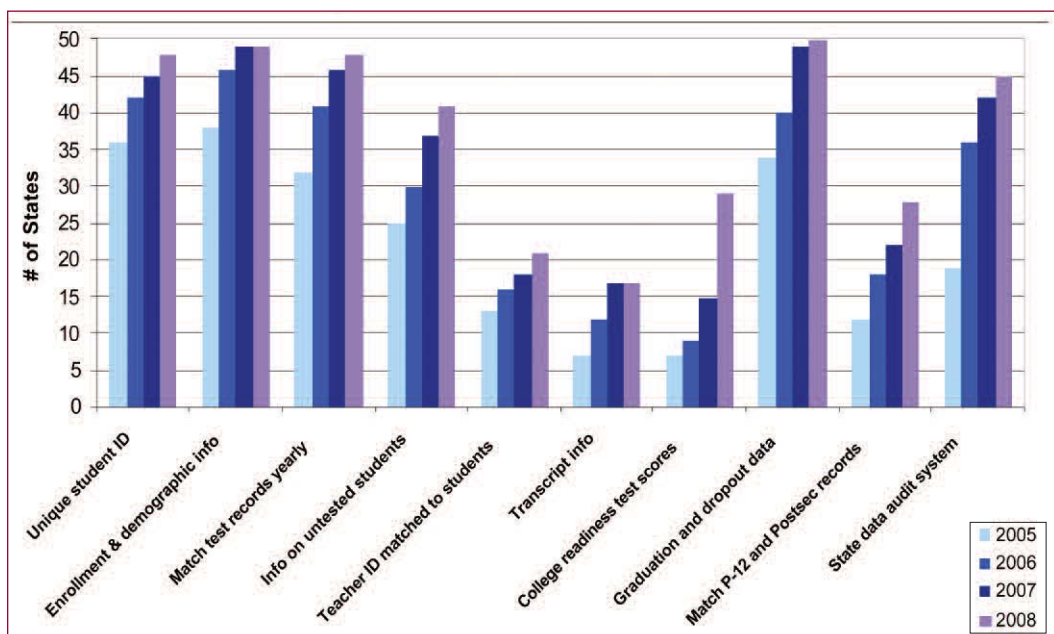
In return for increased funding through ARRA, governors are asked to “*collect, publish, analyze, and act on basic information about how our schools educate our children, evaluate our teachers, and measure our success – information that will reveal both strengths and underlying challenges.*”¹⁴ While an increasing number of states report the capacity to collect this information, the metrics that states must report to demonstrate progress on meeting the assurances will force states to move from merely collecting data to publicly reporting information that will provide transparency and inform decision making in ways that heretofore were rare.¹⁵

Assurance #1:***Teacher effectiveness and ensuring that all schools have highly qualified teachers:***

A robust longitudinal data system, which includes assigning a unique identifier to teachers and students and collecting course and assessment information, makes it possible to determine which forms of teacher training and certification have the greatest effect on students' academic growth in the classroom. Such a match makes it possible to evaluate the effectiveness of teacher preparation programs, pre- and in-service professional development, and of teachers themselves. Currently, 21 states report having the ability to link teacher and student data; however, we know that fewer states are connecting these data and using them for research purposes or to make decisions on teacher effectiveness. The challenge in states implementing data elements, and especially this teacher-student link, is not technical but rather a lack of political priority. This first assurance, and the political will and leadership it will generate, has the potential to change the conversation from *why* and *if* we can connect teacher and student information systems to *how* and *when*.

Assurance #2:***Higher standards and rigorous assessments that will improve both teaching and learning:***

To ensure all students leave high school ready for college and the demands of the knowledge economy, states need to collect and use valuable longitudinal data. Data on course taking and grades, college readiness test scores, and feedback from postsecondary institutions can help determine whether high school courses, assessments, and graduation standards are aligned with college and workplace expectations. As the chart below highlights, these “college/career readiness” elements are the elements least developed across the nation. Governors and other policymakers need to make it a political priority to build the capacity of states to collect, link, and analyze this data to ensure that K-12 standards and assessments are aligned to real world expectations.

State Progress on the 10 Essential Elements, by Element

Source: Data Quality Campaign

Assurance #3:***Intensive support, effective interventions, and improved achievement in schools that need it the most:***

Without data systems, interventions and supports for low-performing schools have often been selected based on limited research studies and usually too late to make a difference for kids caught in a failing system. Longitudinal studies have identified specific factors, including attendance, course success, and achievement levels by the end of 9th grade, that are predictors of a student's risk of dropping out or being on track to be college and career ready. Due to their data system infrastructure investments, most states are now able to develop "early warning systems" that can help identify students in a timely manner for appropriate and tailored interventions to help individual students graduate prepared for postsecondary success.

Assurance #4:***Better information to educators and the public to address the individual needs of students and improve teacher performance:***

Creating state longitudinal data systems and having the information to answer key questions about system performance is a vital first step, but collecting data alone will not lead to continuous improvement and, ultimately, student success. States also must have policies and practices in place so that stakeholders throughout the education system can have access to, understand, and be able to use the information effectively. Web-based portals can provide information in ready-to-use, easy to understand presentations to parents, educators, advocates, and policymakers. Educators especially need greater training on how to use this new information to continuously improve their teaching and results.

Actions to Consider

The following list offers priority actions for governors and other state policymakers to consider as they position their states to take advantage of these new funding sources and promote effective data use in their state.

Expand the ability of state longitudinal data systems to link across the P-20 education pipeline and across state agencies by:

- establishing an interagency data committee with both policy leaders and technical/data staff; use this committee to not only draft proposals to apply for ARRA funding, but to manage the implementation of those grants and serve as a standing committee;
- creating a governance structure and implementing the necessary agreements (political, legal, and practical) among various agencies to ensure data can be shared across and among the P-12, postsecondary, and workforce systems;
- clarifying state policies that ensure the protection of personally identifiable information while also authorizing the state longitudinal data system to collect, share, and link data from multiple systems for the purposes of evaluation and continuous improvement;
- emphasizing interoperability across systems and states (e.g. standard definitions, specifications); consider partnering with other states to apply for ARRA funds; and
- creating the political demand for sharing data – fostering a conversation about the need for information to follow student progress, even across state and district lines, and to break down the traditional silos.

Ensure that data can be accessed, analyzed, and communicated to all stakeholders to promote continuous improvement by:

- ensuring all stakeholders have appropriate access to longitudinal data;
- promoting the effective and timely presentation of this information to advance its use; and
- supporting the development of early warning systems, growth models, and predictive analysis tools that use longitudinal data to inform and improve teaching and learning.

Build the capacity of all stakeholders to use longitudinal data for effective decision making by:

- emphasizing the role of robust data systems in the school improvement planning process and professional development activities;
- changing teacher certification requirements and offering incentives to ensure that teachers have facility with accessing and using data; and
- supporting and investing in advances in technology to improve the efficiencies of data access, analysis, and communication.

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