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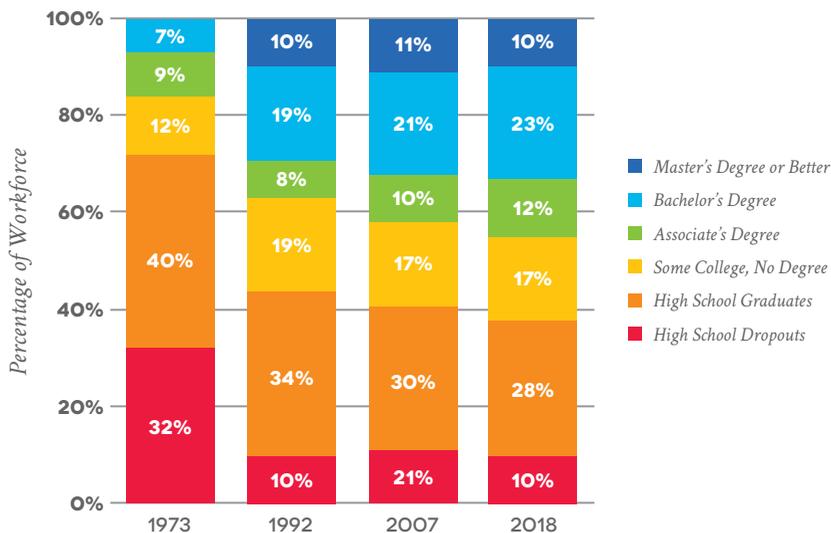
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THE BUSINESS OF EDUCATION

*It is estimated that **63 percent of all jobs nationwide will require training or a credential beyond high school by the year 2018.**¹ Business and military leaders need students to take on complex and advanced tasks, and these leaders are looking for candidates who possess credentials that certify appropriate knowledge and skills. The opportunities for students who drop out or have only a high school diploma continue to decrease.*

PERCENTAGE OF WORKFORCE BY EDUCATIONAL LEVEL 1973 THROUGH 2018



Source: The Georgetown University Center on Education and the Workforce, 2010.

The Georgetown Center on Education and the Workforce has identified **three pronounced trends in workforce education requirements** during the past forty years:²

- Education requirements are increasing for jobs across industries and occupations;
- Job growth is strong among occupations requiring the highest levels of postsecondary education; and
- A strong relationship exists between postsecondary education and attainment of middle- and upper-class status.

The need for postsecondary education has changed dramatically in recent decades. In 1970, almost half (46 percent) of high school dropouts made it to the middle-income class (defined as the middle 40 percent of family incomes). By 2007, that number dropped to 33 percent. Among high school graduates, it fell from 60 to 45 percent.³

These national trends demonstrate that without some kind of postsecondary education, both the nation and its workers will be left

behind: unemployed, underemployed, or likely stuck in jobs that don't provide middle-class wages. In 2008, 90 percent of workers with a high school education or less were found in occupational clusters that do not provide family-supporting wages such as food/personal services and healthcare support, or in other sectors and industries that continue to lose jobs.⁴

A PROBLEM OF SUPPLY AND DEMAND

The United States has been under-producing college-going workers since 1980.⁵ While demand for college-going workers has been steadily growing at a rate of two percent per year, the supply of college-going workers has only increased at a rate of 1.5 percent per year since 1990. Recent Census data note that more U.S. adults than ever before hold at least a bachelor's degree.⁶ Despite this change, the Georgetown study concludes that the U.S. will need an **additional 20 million postsecondary-educated workers by 2025.**⁷

Recognizing the growing need for a workforce with credentials, the Lumina Foundation for Education is focusing resources on an effort to ensure that 60 percent of the adult working-age population (age 25 to 64) holds a postsecondary credential or degree by the year 2025. To accomplish this goal will be no small feat— **states will need to increase the number of degree holders by rates ranging from 3.1 to 10.1 percent annually.**⁸

Nationally, **more than 70 percent of high school graduates enroll in some type of postsecondary training** within two years of graduation; however, program completion rates are dismal.⁹ Just over one half of full-time students who start four-year degree programs finish in six years, and less than 30 percent of full-time community college students graduate with an associate's degree in three years.¹⁰

Despite their aspirations to earn a postsecondary credential, many students face an uphill battle because they graduate from high school under prepared for the rigor of postsecondary education. In 2011, ACT reported that only **52 percent** of tested high school graduates met the college-readiness benchmark for reading; for math, only **45 percent** met the threshold.¹¹ Students who graduate from high school without the prerequisite skills and knowledge often find themselves caught in a cycle of remedial courses, dramatically reducing the likelihood that they will eventually complete their postsecondary degrees or programs.

CONNECTING EDUCATION & ECONOMIC DEVELOPMENT

States must ensure that students have a clearly defined path from K-12 into postsecondary education or workforce training and that expectations are aligned. It is also imperative to coordinate education goals with workforce and economic development goals. The Brookings Institution and the Rockefeller Foundation recommend a three-pronged approach to develop an integrated state workforce and

economic development strategy based on improving student success in community colleges, though many of these strategies could also be applied in coordination with four-year institutions:¹²

1 – Articulate a clear vision for the alignment of workforce development, postsecondary education, and economic development at the regional level.

Data abound showing the growing gaps between the workers states need and the workers they are producing. State leaders must use these data to mobilize their systems to work together to meet ambitious goals. Setting benchmarks for education and workforce outcomes and publicizing how the state is fairing against those benchmarks can help to drive public buy-in and investment. States like **Florida**, **Minnesota**, and **Washington** are using dashboards and report cards to reveal the impacts of higher education on their state labor markets.¹³

2 – Improve student success and credential completion in community colleges.

Working to smooth the transition from high school into postsecondary training is vital to improving completion rates. **California's Early Assessment Program** assesses the readiness of high school juniors for college-level English and mathematics courses and provides intensive remedial high school coursework to those students who need additional preparation.¹⁴ Other states, like **Florida** and **Indiana** provide exams like the PSAT and PLAN (ACT's exam for 10th-graders) to all students free of charge to give them an early indicator of their college readiness. Early college high schools and dual enrollment programs can also help to acclimate students to the expectations of postsecondary education before they graduate from high school. States are also experimenting with developing multiple pathways for students to complete their high school and postsecondary

degrees and certificates. In **Massachusetts**, for example, a statewide network of regional vocational technical high schools provides students with academic instruction integrated throughout technical instruction.¹⁵

3 – Identify and target industry sectors critical to regional competitiveness and expansion.

Aligning economic development priorities with community college and other workforce training programs that produce a high-quality labor supply will in turn help to increase the demand for such workers. States can encourage collaborative efforts among employers, workforce and economic development agencies, and postsecondary institutions. The **Pennsylvania** Industry Partnership program encouraged collaboration among training providers and postsecondary institutions as they worked to meet the needs of employers in high-wage and high-growth industries.¹⁶ Since the program's inception, more than 91,190 participants from 6,300 employers have received training, and these workers are retained at a higher rate than those who did not participate in the program.¹⁷

Forty-eight states and territories have agreed upon a set of standards that are designed to align with the demands of career and college, providing a good starting point for this work. But standards alone will not improve academic outcomes for students. Standards must be followed by comprehensive implementation efforts to support effective teaching, implement rigorous assessments that gauge student progress toward the standards, and capitalize on new developments in technology that allow for more personalized instruction for students.



NEW DEMANDS IN TEACHING AND LEARNING:

ENGLISH LANGUAGE ARTS AND MATHEMATICS

Forty-eight states and territories have adopted new state standards in English language arts and mathematics. The standards are designed to align with college and career readiness by the end of grade 12 and present states with the opportunity to work together. States have begun implementing the standards to varying degrees, but all are working towards full implementation in the 2014-15 school year. As governors consider implementation in their states, it is important to recognize the key instructional shifts that come with the new standards and the ways that teaching and learning will need to change in order to achieve success.

ENGLISH LANGUAGE ARTS

The new standards for English language arts (ELA Standards) articulate a clear progression of learning from grades K-12 for reading, writing, speaking, and listening. The Standards also include guidance for science and social studies teachers so they can incorporate appropriate reading and writing assignments into their instruction.¹⁸

The ELA Standards are designed by individual grade levels in grades K-8. To allow schools, districts, and states greater flexibility in high school course design, the Standards are grouped into two-year bands in grades 9-12 (9-10 and 11-12).

To successfully implement the ELA Standards, teachers and school leaders should focus on three key instructional shifts:¹⁹

1 – Greater emphasis on nonfiction and informational texts.

The ELA Standards require students to read narrative fiction, poetry, drama, and nonfiction, but the emphasis on nonfiction increases as students progress through grades 6-12. This shift is meant to better prepare students for the type of reading they will encounter in the workplace and in postsecondary education settings.

2 – Reading and writing grounded in evidence from text.

The ELA Standards require students to read closely and grasp information, arguments, ideas, and details based on text evidence. The Standards also require students to write using evidence from texts to present careful analyses and arguments in their writing. This type of careful writing and reading mirrors the kinds of tasks and assignments that students will be given in college and the workplace.

3 – Regular practice with complex text and academic vocabulary.

There is clear evidence that the texts students are reading today are not of sufficient complexity and rigor to prepare them for the

reading demands of college and career.

The ELA Standards require students to use increasingly complex texts as they advance through the grades. Students will need to acquire an academic vocabulary in order to succeed at reading and understanding such texts, and the Standards distinguish this vocabulary from words used in more casual, everyday speech.

WORKING TOGETHER TO MEASURE TEXT COMPLEXITY²⁰

Over the past several decades, the complexity of texts that students are expected to read has declined in K-12, while at the postsecondary and career level, the complexity of texts has remained the same or increased, resulting in a large gap. The vocabulary demands in current 8th-grade text books are now on par with former 5th-grade texts, and current 12th-grade anthologies are equal to former 7th-grade texts. The process of determining the complexity and appropriate grade placement for various texts requires some effort and presents an opportunity for states to collaborate and share resources.

To help teachers identify and select appropriately complex texts, **Kansas** has created a rubric that uses a quantitative measure of word frequency and sentence length, a qualitative assessment of the demands on a reader, and professional judgment as to when and how the text is best suited for use.²¹ Teams of teachers use these combined measures to determine a recommended grade placement for a specific text. Drawing on the unique opportunity that the new standards present for collaboration across states, **Louisiana** used Kansas' text complexity rubric to create its own state-specific text complexity tools.

MATHEMATICS

The new standards for mathematics (Math Standards) articulate a progression of learning that deepens a student's ability to understand and use mathematics.²² These grade-by-grade progressions were informed by a large and growing body of evidence including scholarly research; surveys on what skills are required of students entering college and workforce training programs; assessment data identifying

college- and career-ready performance; and comparisons to standards from high-performing states and nations.

To successfully implement the Math Standards, teachers and school leaders should focus on three key instructional shifts:²³

1 – A clear focus on specific content at each grade level.

The Math Standards give students more time to develop deep understanding of the most important mathematical concepts and procedures. Current math standards are often categorized as being “a mile wide and an inch deep.” The Math Standards address this by allowing teachers to focus deeply on fewer concepts at each grade level. This allows more time for activities that help students develop and apply the math skills they are learning to solve problems inside and outside of the classroom.

2 – A more coherent progression of learning.

The Math Standards clearly articulate how knowledge builds from year to year. Each standard extends previous learning while avoiding repetition and large leaps in instruction. The Math Standards devote more time to student mastery of the building blocks of mathematical thinking in grades K-5 to ensure they are ready for geometry, algebra and probability, and statistics in middle and high school.

3 – Increased rigor and application of knowledge.

Though students need to know their math facts and basic arithmetic operations, they also need to develop an understanding of underlying mathematical reasoning. The Math Standards require teachers to help students achieve both of these goals. In addition, the Math Standards require that students at all grade levels apply math concepts to “real world” situations, including those presented in science and social studies.

IMPLEMENTATION

Transitioning to the new ELA and Math Standards will require work at all levels—classroom, school, district, and state. The National Governors Association Center for Best Practices has identified several implementation challenges in the 2011 guide, *Realizing the Potential: How Governors Can Lead Effective Implementation of the Common Core State Standards*.²⁴ Governors and states leaders now have the benefit of learning from recent state efforts to address each of these challenges.

CONTINUING TO COMMUNICATE THE NEED FOR NEW STATE STANDARDS

Myths and misinformation about the standards still exist, and challenges to their adoption and implementation have emerged in some states. To maintain momentum and ensure the dissemination of clear, accurate information, it is vital for governors, chief state school officers, postsecondary leaders, and others to have a coordinated communications plan with consistent messaging.

Many states are utilizing technology to help get their message out. **New York** has developed an online platform, *EngageNY*, to communicate with teachers, principals, and other stakeholders about implementation news, as well as provide a library of instructional tools and resources.²⁵

Arkansas developed a website to share information about what the standards are, why the state adopted them, and how they are being implemented with parents and the larger community.²⁶

PREPARING AND SUPPORTING TEACHERS AND LEADERS

The new standards will require a significant shift in instruction for most teachers and school leaders. Many teachers might also need to acquire additional content knowledge, especially elementary math teachers who may be required to teach

different content than they previously taught in their grade levels. Implementation efforts will fall short if teachers lack the training and support they need to adapt their instructional practice and help students develop deeper conceptual understanding. It is essential that K-12 and postsecondary leaders collaborate to improve both teacher preparation and professional development.

States should consider leveraging existing networks and structures to provide professional development aligned with the new standards. The **Kentucky** Department of Education (KDE) is taking this approach to ensure professional support for the 44,000 teachers across the Commonwealth. By leveraging the existing structure of their regional education cooperatives, the KDE has developed *Leadership Networks* consisting of teachers, school leaders, district administrators, and postsecondary faculty across eight regions who will serve as resources as districts across the state implement their new Core Academic Standards.²⁷

States are also working to make sure that teachers still in the pre-service training pipeline are prepared. In **Kentucky**, legislation requires that postsecondary institutions create individual professional development plans to integrate the new standards into teacher preparation courses. In **Indiana**, K-12 and postsecondary education representatives collaborated to align teacher preparation standards with the new state standards. The new *Developmental and Content Standards for Educators* detail the subject-matter knowledge and skills teachers need to teach effectively in the state's classrooms.²⁸

BUILDING AND ALIGNING STATE ASSESSMENTS

The new standards will first be assessed in the 2014-15 school year. Assessments must be carefully aligned with the standards and designed to generate an accurate measure of student progress toward those learning goals. Two assessment consortia are now working to

develop assessments that meet these criteria. Implementation of the new assessments brings unique challenges including the need to adapt accountability systems and other reforms. These challenges are discussed in greater detail beginning on page 17.

THE DEVELOPMENT AND ACQUISITION OF ALIGNED CURRICULUM AND MATERIALS

States will need to evaluate whether their existing textbooks and curricular materials are aligned with the new standards, and, if not, how they might be adapted to be used while aligned materials are developed. States will also need to evaluate whether materials being marketed as “aligned to the Common Core” do in fact live up to this claim.

The **Colorado** Department of Education (CDE) is building an online tool kit of resources to help districts as they work to align and develop curricula.²⁹ The tool kit includes guidance for developing aligned curriculum and model instructional units. The CDE plans to add curriculum exemplars, video resources for teaching, examples of student mastery, and resources to establish student growth measures for all content areas.

Collaboration among states could also ease the burden of developing and/or reviewing new materials. States should consider using one another as resources as **Kansas** and **Louisiana** have done with their text complexity work (see box on page 6), and like **New York**, **Rhode Island**, and **Massachusetts** which have formed the *Tri-State Collaborative* to develop criterion-based rubrics and review processes to evaluate the quality of lessons and units intended to address the new standards.³⁰



DIGITAL LEARNING & TECHNOLOGY

Technology has transformed the way we live, work, and play. It has expanded access to knowledge and expedited communications and commerce, increasing productivity and enhancing efficiency. Students are habituated and comfortable with a wide range of media. Taking advantage of that to further and enhance learning makes good sense for schools.

Digital learning offers the opportunity to customize education for individual students, giving them control over the time, place, path, and pace of their education. With an ever-growing array of devices to access the Internet, students have the potential to learn anytime and anywhere.

Interest and participation in digital learning is growing. A decade ago, only 40,000-50,000 students were enrolled in K-12 online education.³¹ In the 2009-10 school year, approximately 1.8 million students in K-12 districts were enrolled in distance-education courses, almost all of which were online.³² An additional 200,000 students were enrolled in full-time online schools.³³ Yet these students represent only a small fraction of the total students in the United States. States need to develop sound, concrete policies to ensure that all students have the opportunity to access digital learning.

DIGITAL LEARNING IN PRACTICE

There are three essential components for digital learning: **high-quality digital content, technology to access the content, and effective educators** to both deliver the content and provide guidance for students. Students can access digital learning in a variety of settings, from full-time enrollment to taking one or two classes online or even a blended model.

- **Full-Time Online:** Offers an educational option for students who cannot, or do not desire to, attend a brick-and-mortar school. Students and teachers are not in the same location.
- **Part-Time Online:** Provides students an opportunity to enroll in individual online courses to meet particular needs and interests, such as AP or foreign language courses that their schools of enrollment may not be able to offer. Students and teachers are not in the same location for the individual online course.
- **Blended:** Combines digital learning with other modes of learning, such as instruction facilitated

by a teacher, group discussion, project-based learning, and one-on-one tutoring in a supervised setting. Students and teachers are in the same location.

While research on the effects of digital learning is limited, especially when it comes to K-12, a 2010 meta-analysis conducted by the U.S. Department of Education found that students in online conditions performed modestly better than those learning the same material through traditional face-to-face instruction (the analysis included studies of K-12, postsecondary, and workforce training programs).³⁴ When compared against their peers who received face-to-face instruction, students in blended models exhibited larger increases in learning than students in strictly online courses.³⁵

BLENDED LEARNING IN ACTION³⁶

Carpe Diem Collegiate High School, a charter school in Yuma, Arizona, is considered an exemplar of the blended learning model. Students rotate between self-paced online work in a learning center (staffed by paraprofessionals who offer direction and assist students) and traditional face-to-face instruction with a teacher. With the use of technology and online learning, Carpe Diem is able to educate 273 students with only six full-time teachers on staff, providing substantial cost-savings which allow for teachers and support staff to be paid at or above the district average. In 2010, Carpe Diem ranked first in the county on math and reading performance while serving a student population that is 60 percent low-income and 48 percent minority.

At the elementary level, Rocketship Education serves students at three schools in San Jose, California. Similarly to Carpe Diem, students spend part of their time in a learning lab using online programs in math and reading, and part of their time in traditional classes. Serving a population that is 86 percent English Language Learners and 88 percent low-income, Rocketship's schools were the highest-performing low-income elementary schools in Santa Clara County and ranked in the top 15 among California schools with similar demographics in 2010.

FLORIDA VIRTUAL SCHOOL³⁷

The Florida Virtual School (FLVS) was the first virtual public high school in the country and is known nationally for its high-quality curriculum and instruction. The FLVS operates as an autonomous school within the state of Florida and is able to provide its courses for a lower per-student rate than traditional school districts in part because it does not require any capital funding. In FY 2011-2012, the FLVS received approximately \$4,840 per full-time enrollment, compared to a Florida district average of \$6,999 per full-time enrollment.³⁸ Funding is based on successful completions, rather than enrollment and attendance (seat time). The FLVS has provided useful solutions for several challenges facing school districts, from over-crowded classrooms to access to AP courses.

DIGITAL LEARNING IN POLICY

States vary in the degree to which students participate in digital learning, but approximately 40 states now have virtual schools or other state-led initiatives, and 30 have statewide full-time online schools.³⁹ The Digital Learning Council, composed of leaders in education, government, philanthropy, business, and technology, developed a comprehensive framework to advance meaningful and thoughtful integration of technology into K-12 education.⁴⁰ The policy considerations fall into three general categories:

1 – Customization and Success for All Students

States must ensure that all students have the opportunity to access high-quality digital learning. This means that all students eligible for public school should also be eligible for publicly funded digital learning and no artificial caps should be placed on student enrollment in these programs. Students should also be able to access digital learning in the ways that work best for them; for some students that may mean full-time online, for others perhaps accessing one or two courses that they might not otherwise be offered at their school of

enrollment. In order to ensure that all students have the opportunity to participate in digital learning, **Idaho, Michigan, Alabama,** and **Florida** now require students to take an online course as part of their state graduation requirements.⁴¹

Digital learning can also allow students to move at their own pace, progressing from one course to the next when they demonstrate mastery, rather than at the end of a semester or school year. States like **New Hampshire, Oregon, Alabama,** and **Missouri** have eliminated seat-time requirements that would impede an online providers' ability to offer mastery-based courses, and the Florida Virtual School allows students to earn credits based on proficiency, rather than seat-time.⁴² In this way, digital learning can also be used to offer students a more customized education.

2 – A Robust Offering of High-Quality Options

To ensure that students have a broad array of educational options to choose from, states need clear and transparent guidelines for approval of digital learning providers, as well as a strong system of oversight and quality control. Student achievement should be the primary metric for evaluating the effectiveness of schools and other providers. States must also ensure that the content taught digitally is aligned to state standards. With 48 states and territories recently adopting new standards in English language arts and mathematics, opportunities for collaboration and expansion of digital learning are abundant.

Digital learning also has the potential to extend the reach of the most effective teachers. Models such as those used by Carpe Diem and Rocketship (see box on page 10) allow teachers to reach more students than in a traditional classroom. However, as states build their digital learning policies, they must also consider how to prepare and train teachers to make

sure they have the knowledge and skill to teach effectively within online settings. In **Missouri**, the eMINTS model (enhancing Missouri's Instructional Networked Teaching Strategies) provides teachers with extensive professional development to integrate technology into teaching and learning. External evaluations of the program found a direct link to improved student performance in grades 5 and 6.⁴³

3 – 21st Century Infrastructure

States also need to evaluate whether their infrastructure and funding systems support the advancement of digital learning. In addition to ensuring access to high-speed broadband internet and devices with internet connectivity, states must measure the range and results of their efforts by collecting data on enrollment by school or provider, types of digital learning in use, and student outcomes in those courses and schools. This will require robust data systems that have the capacity to link providers and types of digital learning to student achievement outcomes, and allow valid comparisons among courses and schools. Rich data and analyses such as these provide the empirical basis for lawmakers and policymakers to continue to develop sound digital learning policy.

Digital learning also has great cost-saving potential: an analysis for the Thomas B. Fordham Institute estimates that the per-pupil costs for virtual schools range from \$5,100 to \$7,700, compared to \$10,000 per pupil for traditional brick-and-mortar schools (national average.) For blended models the estimate is between \$7,600 to \$10,200.⁴⁴ In order to foster innovation, states must closely examine their funding statutes to prevent arbitrary barriers to the development of digital learning opportunities for students and to ensure that districts and schools have the flexibility to offer different options for students.

THE 10 ELEMENTS OF HIGH-QUALITY DIGITAL LEARNING⁴⁵

- **Student Access:** All students are digital learners.
- **Barriers to Access:** All students have access to high-quality digital learning.
- **Personalized Learning:** All students can use digital learning to customize their education.
- **Advancement:** All students progress based on demonstrated competency.
- **Quality Content:** Digital content and courses are high quality.
- **Quality Instruction:** Digital instruction is high quality.
- **Quality Choices:** All students have access to multiple high-quality digital learning providers.
- **Assessment and Accountability:** Student learning is the metric for evaluating the quality of content, courses, schools, and instruction.
- **Funding:** Funding provides incentives for performance, options, and innovation.
- **Infrastructure:** Infrastructure supports digital learning.

DIGITAL LEARNING IN YOUR STATE

In 2011, Digital Learning Now! developed a *Roadmap For Reform* to guide governors, chief state school officers, and legislators as they adopt policies for digital learning. The *Roadmap* defines 72 measures to achieve a high-quality state digital learning system. *State Digital Learning Report Cards* were also released to help state leaders assess where their states currently stand. These resources are available at www.digitalllearningnow.com.



DEVELOPING & MEASURING EFFECTIVE TEACHING

Research indicates that teachers are the most important school-based factor for student growth and achievement.⁴⁶ It is also clear that the quality of teachers can vary both across school districts and within schools themselves. Low-income students are disproportionately more likely to have less effective teachers, placing these students at a significant disadvantage. A single year with an ineffective teacher can cost a student up to one and a half years' worth of achievement.⁴⁷ On the other hand, five consecutive years with an effective teacher could nearly close the achievement gap.⁴⁸ Given this influence, it is essential for state education leaders to ensure instructors are recruited, trained, and retained in a manner that gives all students access to the most effective teachers possible.

A recent study found that replacing a POOR teacher with an AVERAGE one would raise a classroom's lifetime earnings by about \$266,000.⁴⁹

Until recently, the requirements of the Elementary and Secondary Education Act, known as *No Child Left Behind* (NCLB), have led states to focus mainly on ensuring that there are “highly qualified teachers” in every classroom. NCLB defines “highly qualified” in terms of *inputs* – teachers must hold a bachelor’s degree, be licensed by the state, and demonstrate subject matter competency. Today, many states are considering teacher quality in terms of the *outputs* they produce – namely, the achievement of their students. From 2007 to 2011, the number of states requiring evidence of student learning to be the most significant criterion in teacher evaluations rose from four to thirteen.⁵⁰

Although it is clear that strong teachers are essential for student achievement, less is known about how to measure effective teaching. Regular evaluations are one tool that can identify a teacher’s strengths and hone in on areas for improvement. Ideally, this process provides teachers with feedback on their performance and give administrators the information they need to develop teacher supports and make personnel decisions. This information is critical to improving the effectiveness of teachers. Research demonstrates that without useful feedback, most teachers’ performance plateaus by their third or fourth year on the job.⁵¹

Unfortunately, teacher evaluation systems often use a binary “satisfactory” or “unsatisfactory” rating that doesn’t provide detailed information about a teacher’s strengths and weaknesses. These systems can also send a signal that there is little room for

improvement. According to The New Teacher Project’s report, *The Widget Effect*, more than 99 percent of teachers receive a satisfactory rating under this type of binary evaluation system.⁵²

A more comprehensive approach is needed to promote effective teaching in every classroom. Based on research and the experience of districts and states across the country, the strongest teacher evaluation systems:

- *Define and identify effective teachers;*
- *Guide professional development;*
- *Provide a mechanism to reward and retain effective teachers;*
- *Prompt the removal of ineffective teachers; and*
- *Provide feedback to teacher training programs.*

As states examine their systems, it is important that this work is based on open and continuing communication with educators. From the beginning, the purpose of the evaluation system should be made clear to both teachers and policymakers, and evaluation measures should be carefully selected to achieve those means. For example, a particular measure might be especially useful for determining professional development needs, but not reliable enough to be used singularly for compensation reform.

MEASURES USED TO EVALUATE TEACHER EFFECTIVENESS

In recent years, states have begun to search for measures of teacher effectiveness that better reflect the professional practices of teachers and the achievement of their students. Each measure has strengths and weaknesses which states must weigh as they craft their systems. While it is clear that accuracy improves when multiple measures are used, it is not currently known which combination of measures is most accurate.

STUDENT ACADEMIC GROWTH

Learning is a complex process that can be affected by a range of variables including a student's previous teachers, instruction delivered in other subjects, the school environment, and a student's home life. Some states are developing value-added measures to factor in these elements and analyze whether student achievement and growth is on track. Value-added measures compare the growth in a student's standardized test scores to an expected student growth trajectory. *The Education Value-Added Assessment System* model used in **North Carolina** uses prior test scores to predict future scores; other systems do the same but also control for student characteristics. These models typically require multiple years of data for both teachers and students to allow for accurate measurement. For instance, **Tennessee** requires a minimum of three years of available data before value-added measures are used to evaluate teachers.⁵³

Researchers and policymakers who favor value-added measures argue that they produce consistent enough results year-to-year to warrant incorporation into teacher evaluation systems.⁵⁴ Others suggest that value-added measures are not a sufficiently stable measure of teacher effectiveness and fail to account for factors like classroom dynamics.⁵⁵ Yet even proponents of value-added measures acknowledge that the method should

only be used in combination with other measures of teacher effectiveness.⁵⁶

A challenge when using growth measures in an evaluation system is constructing valid, reliable measures of student growth for teachers of untested grades and subjects. This is a significant population of educators—in **Tennessee**, approximately 55 percent of teachers do not have individual scores from the state standardized tests. The Community Training and Assistance Center recommends the use of *Student Learning Objectives* (SLOs) for these teachers. SLOs are carefully planned goals for what a student will learn over a given period of time. Teachers review available data about their students early in the school year (including previous performance), set classroom-wide and targeted objectives, and identify appropriate measurements. An evaluation in **Denver** found that students whose teachers crafted high-quality SLOs showed more than a year's worth of gain on the *Colorado Student Assessment Program* and the *Iowa Test of Basic Skills*.⁵⁷

CLASSROOM OBSERVATIONS OF INSTRUCTIONAL PRACTICE

High-quality observation and feedback from a trained observer can provide teachers with rich information about their instructional effectiveness. To ensure that observation measures are valid and reliable, principals and other evaluators need training and support so that they are fully-prepared to conduct meaningful observations. It is also important to establish rubrics to focus each evaluator's attention on the most critical aspects of instruction.

STUDENT PERCEPTIONS OF THE CLASSROOM INSTRUCTIONAL ENVIRONMENT

Early research through the Bill & Melinda Gates Foundation's *Measures of Effective Teaching* project found that student perceptions of the classroom environment

are fairly consistent with student outcomes. Certain survey questions asked of students have been found to be correlated to high student achievement and student perceptions in one class were found to predict large differences in student gains in other classes taught by the same teacher.⁵⁸ For instance, students would be asked if they agree with a series of statements, including the following:

- *My teacher in this class makes me feel that he/ she really cares about me.*
- *Our class stays busy and doesn't waste time.*
- *My teacher explains difficult things clearly.*
- *In this class, we learn a lot almost every day.*
- *If you don't understand something, my teacher explains it another way.*⁵⁹

TEACHER PERCEPTIONS OF WORKING CONDITIONS AND INSTRUCTIONAL SUPPORT AT THEIR SCHOOLS

Researchers have noted that teaching practices are influenced by two factors: teacher characteristics and the teaching environment.⁶⁰ A comprehensive evaluation system will also include measures that attempt to capture information about the environment in which a teacher works. States such as **Colorado, Kentucky, Maryland, Massachusetts, and North Carolina** have implemented teaching and working conditions surveys that ask educators to anonymously evaluate critical teaching and learning conditions in their schools. The results are used to inform school improvement efforts, including decisions about professional development needs and resource allocation.

TEACHER SUPPORT AND TRAINING

A teacher evaluation system cannot improve instruction without providing ongoing professional development and support to help teachers improve the effectiveness of their work in the classroom. More nuanced evaluation systems should help in identifying

teacher strengths and weaknesses which can then be addressed through targeted professional development and improved teacher preparation.

The primary goal of **Rhode Island's** new *Educator Evaluation Model* is to provide teachers and building administrators with ongoing, useful feedback.⁶¹ In addition to evaluations that identify strengths and weaknesses, educators produce personal reflections on their practice in an individualized Professional Growth Plan. All educators are expected to meet the goals set in their plans through job-embedded professional development, such as peer observation or participation in a professional learning community. Educators revisit the Professional Growth Plans and their progress against them with their evaluator at several points throughout the year. Educators who receive ratings of “developing” or “ineffective” receive additional support to create detailed Improvement Plans.

Data from teacher evaluation systems can also be used to help inform the preparation of future teachers. **Louisiana** has seen great success with its *Teacher Preparation Program Assessment Model*, which links student growth measures to teachers and the colleges and universities that trained them. **Colorado, Florida, Georgia, Tennessee, and Texas** also have systems in place to evaluate the effectiveness of teacher preparation programs on the effectiveness of the teachers they graduate.⁶² At least eight additional states and the District of Columbia plan to report such value-added information for their teacher education programs.⁶³



ASSESSMENTS & ACCOUNTABILITY

State accountability measures are a vital mechanism to track progress at all levels: student, classroom, school, district, and state.

Without data on student learning, it is impossible to know whether policy and instructional strategies are working and whether state investments are meeting the intended goals.

Yet all assessments are not created equal, and a governor can provide valuable leadership by ensuring that the assessment system in his or her state is generating the most timely and accurate information about student learning.

Current statewide academic assessments are generally given at the end of the school year to generate data for accountability purposes. Many of these assessments have fallen short of providing information about how well students are performing. An analysis comparing state proficiency standards with the National Assessment of Educational Progress (NAEP) found that many students can be deemed proficient on their state assessments and still score at or even below NAEP's definition of "Basic"⁶⁴ performance.⁶⁵ Statewide assessments have also been found to be focused on low-level skills, as multiple choice questions are the least expensive to score but often fail to generate rich information about student knowledge and skills. When used for accountability purposes, such assessments cause teachers to also emphasize these low-level skills in an effort to prepare students for the types of items they will see on the test.

Most current state assessment systems are not designed to also provide the timely, nuanced data that teachers need to design appropriate instruction for individual students. It is imperative for states to develop comprehensive assessment systems that will meet both the accountability needs of policymakers and the public and the instructional needs of teachers.

THE CONSORTIA

States recognized early on that the adoption of new standards would require the development of new assessments aligned to those standards and that the new assessments would offer an opportunity to improve upon current tests.

Two interstate consortia formed – the Partnership for Assessment of Readiness for College and Careers (PARCC) and the Smarter Balanced Assessment Consortium (SMARTER) – and were awarded federal *Race to the Top* grants to develop comprehensive assessment systems aligned to new English language arts and mathematics standards that have been adopted by 48 states and territories.

States had the option to join one or both of these consortia and forty-five states and the District of Columbia are participating and have committed to implement the new assessments in the 2014-15 school year. These consortia have the opportunity to develop more innovative assessments while achieving economies of scale that reduce assessment development costs. The shared assessments will also allow for real comparisons of student achievement across states.

Each consortium is designing an online, comprehensive assessment system that includes three types of assessments, each with a different purpose:

- *Optional formative assessment tools, which can be embedded in instructional activities to provide teachers with immediate feedback to guide instruction;*
- *Optional interim assessments, which are administered periodically throughout the school year to track student progress; and*
- *Summative assessments, which are given at the end of a course or school year and provide an annual measure of student achievement.*

This combination of assessments will provide richer information as teachers, schools, districts, and states evaluate the progress that students are making towards career- and college-readiness.

CHALLENGES AND OPPORTUNITIES

As states move closer to the 2014-15 implementation of the consortia assessments, they face several key challenges and opportunities. States will need to take proactive measures to establish the human resource capacity, public will, and technological infrastructure to implement these assessments successfully. Some states, like **Massachusetts**, are

moving incrementally to assess students on items aligned to the new content standards before 2014-15.⁶⁶ A governor can provide strategic leadership as his or her state navigates key progress points during this important transition period.

SETTING CUT SCORES

Significant differences currently exist between the content high schools teach and the expectations postsecondary institutions have for incoming students. This misalignment is reflected in the fact that many of the assessments students take in high school are not related to, or do not correlate with, the placement tests they take at the college or university level. The consortia assessments provide an opportunity for K-12 and higher education to agree on an academic measure that defines the **minimum knowledge** and skills a student needs for entry-level, credit-bearing college courses. Though colleges and universities will continue to set their own admissions standards and placement requirements, it is expected that the assessments being designed by the two consortia will give students, parents, and colleges a clear signal about student readiness for general education-level college courses.

It is essential for K-12 and postsecondary systems to work together to set cut scores that accurately signal whether a student is academically prepared for college coursework. If the cut scores are set too low, many students will be deemed ready for postsecondary education only to find themselves placed into remedial classes in college. Governors should exert their leadership by actively engaging K-12 and postsecondary leaders in the conversation about where cut scores should be set. Governors will need to be vocal in their support for establishing cut scores that provide a true and accurate measure of whether a student is prepared for the demands of college and career.

PREPARING FOR A DROP IN SCORES

When states implement more rigorous content standards and aligned assessments, they are likely to see a drop in student scores as the system realigns to the new expectations. Governors and state leaders must develop clear communication plans that acknowledge this possibility and **prepare parents, teachers, and students in advance of the release of the first year's scores**. As political pressure mounts to lower cut scores, governors will need to stand firm by emphasizing the importance of accurate information about how well students are doing.

Open, honest communication and clear messaging is key to this aspect of the transition. When Tennessee raised its standards with the *Tennessee Diploma Project*, state leaders worked hard to raise public awareness about the need for higher standards for **Tennessee** students.⁶⁷ They also explained that test scores would drop not because performance had fallen, but because the bar had been raised. In 2009-10, the number of students scoring proficient dropped from about 90 percent in both reading and math to 51 percent proficient in reading and less than 35 percent in math. Despite this dramatic drop in scores, the public buy-in that Tennessee had built for its new standards helped state leaders avoid political fallout and keep the system focused on raising achievement for Tennessee students. The next year, in 2010-11, Tennessee students performed better in all subject areas and grade levels; statewide, student math scores increased by seven percentage points, and student reading scores increased by almost four percentage points.⁶⁸

ENSURING TECHNOLOGICAL CAPACITY

Online assessments can dramatically change the education landscape, offering richer, more innovative item types, better accommodations for students with special

needs, improved efficiency in both scoring and feedback, and increased student engagement.⁶⁹ However, transitioning from paper-and-pencil tests to a completely digital system is not without its challenges. Both consortia are planning online administration of the assessments, and states will need to consider their own technological capacity as the 2014-15 school year approaches. To help state and local education agencies identify necessary technology and infrastructure upgrades, PARCC and SMARTER Balanced have joined together to create a Technical Advisory Board and have developed an open-source Technology Readiness Tool set to be released in March 2012.⁷⁰ The tool allows local schools and districts to report on readiness indicators including:

- *Number and type of computers;*
- *Local network and bandwidth infrastructure; and*
- *Local staff resources to support the digital delivery of assessments.*

This analysis will illustrate how ready school districts within each participating state will be for the implementation of online assessments. It is likely that for many states the divide between where they are and where they will need to be will be great. A 2010 survey by the Federal Communications Commission found that only 22 percent of district respondents said their connection speeds completely meet even their current needs.⁷¹ The Technology Readiness Tool will be used to collect data twice annually through 2014 to help states gauge their progress.

ADAPTING STATE ACCOUNTABILITY MEASURES

The *No Child Left Behind Act of 2001* (NCLB) required states to determine what it would take for students in grades 3-10 to be “proficient” and to bring all students up to that level by the 2013-14 school year. NCLB required annual reporting and disaggregation of student achievement data, which brought persistent

achievement gaps to light. However, many states are now looking for more flexibility as they refine their state accountability systems. Eleven states have received ESEA waivers from the U.S. Department of Education and 26 more states, plus the District of Columbia, have applied in the second round. As states calculate accountability scores for districts and schools to determine which schools will be classified as failing or meeting accountability targets, they will need to give careful consideration to the effect of the new assessments. For example, states that use student growth as an accountability measure will have to determine how or if they can measure growth from the old assessments to the new assessments, and if not, how they will weight their other measures during the first few years of the new assessments.

CONSIDERING IMPLICATIONS FOR OTHER REFORMS

Many states are now working to connect student performance to teacher evaluations, compensation, tenure, and/or licensure. The real possibility of lower-student performance during the transition to new content standards and assessments has implications for these policies, and it is vital that states address these implications *before* the tests are administered.⁷²

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