High-Quality College and Career Ready Assessments

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Assessments matter in education. Testing is nothing new; tests have been around as long as school itself. However, over the last 15 years, state assessments have grown to be an increasingly central, and often controversial, part of schooling. As states raise their standards, it is more important than ever to ask: What is a high-quality assessment?

This year, more than three million students will graduate from public high schools in the United States. For the vast majority of these students, high school cannot be the end of their education. By 2020, the number of jobs requiring postsecondary education is predicted to reach 65 percent. According to one analysis, over a lifetime, workers with a college degree earn, on average, over one million dollars more than those with only a high school diploma. Employers increasingly require employees who have the ability to creatively solve non-routine problems, think critically, and communicate clearly.

Current evidence indicates that too few students leave high school prepared for postsecondary education and the world of work. Only one in four students graduate from high school having met all four of the ACT College Readiness Benchmarks — a measure of preparedness for credit-bearing university and community college courses. Employers regularly struggle to find employees with the knowledge and skills necessary to be successful. More than one in five students fail to pass the assessment required for U.S. Army enlistment. Troublingly, achievement gaps and inequity persist across lines of race, ethnicity, socioeconomic status, and disability.
In response to the need to improve outcomes for all students, states around the country have taken a first step: adopting higher subject matter or content standards aligned with the demands of college and career. Yet setting these new standards does not guarantee improved student outcomes and equity; a vital next step is adopting new assessments to measure the attainment of them. *This brief will help state policymakers think about adopting and implementing high-quality, college and career ready assessments through the lens of a small set of policy considerations.*

**Defining Assessment**

Assessments measure what a student knows and is able to do. Assessments range from informal (asking students questions in class) to formal (a college entrance exam).

**State Summative Assessments** are typically given at the end of the year and are used for school and district accountability. In many cases, educator evaluations and student promotion or graduation decisions may be informed by these assessment results.

**District and School Assessments**, often referred to as interim or benchmark assessments, are given periodically throughout the year to determine progress against academic goals. These assessments are commonly purchased or developed by districts or schools and not the state.

**Classroom Assessments** are part of a teacher’s instruction (like teacher-made tests and in-class questioning) including formative assessment which is the practice of regularly assessing student learning during instruction to inform and improve teaching and learning.

In 2013, 38 percent of 12th-graders nationally scored at a level on the National Assessment of Educational Progress reading assessment that indicates they possess the knowledge, skills, and abilities in reading that would make them academically prepared for college.  

In 2013, 39 percent of 12th-graders nationally scored at a level on the National Assessment of Educational Progress mathematics assessment that indicates they possess the knowledge, skills, and abilities in mathematics that would make them academically prepared for college.
Four considerations are outlined in this brief. While not exhaustive, all four considerations are critical to adopting improved college and career ready assessments. **Additionally, assessments have important cost implications**; this brief addresses cost and discusses the trade-offs between cost and quality in each section.

### CONSIDERATIONS FOR HIGH-QUALITY ASSESSMENTS

**ALIGNMENT**

What is taught must be what is tested... and vice versa.

**DELIVERY**

Soon, pencil and paper tests will largely be a thing of the past.

**INSTRUCTIONAL VALUE**

Attend to assessment in September ...not just June.

**IMPACT**

Assessments matter — for accountability and for instruction.

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**ALIGNMENT**

*What is taught must be what is tested... and vice versa.*

Educational standards define the knowledge and skills students need to achieve. Assessments measure students’ grasp of the knowledge and mastery of the skills. Assessments must “align” to the content or subject matter standards. If the standard says a student in third grade will be able to multiply and divide within 100, then the assessment for that grade should include questions that require students to do exactly that.

A recent study of state summative assessments found that approximately half of the knowledge and skills in the content standards were not reflected on the assessments. Teachers also voice concerns about assessments. In a 2012 Scholastic survey, only 26 percent of teachers said they believed the results of state standardized tests are an accurate reflection of student achievement, and only 28 percent found their state assessments to be an important measure of student academic achievement.

Why does alignment matter? First, fairness: Students need to be assessed on content they are taught, and teachers need to be able to see the content standards reflected in the assessments their students take. Second, misaligned assessments will produce unrepresentative and potentially misleading data — a problem for use in both instruction and accountability. When tests and standards are misaligned, it sends mixed signals to teachers. Because the state tests are tied to accountability, teachers often feel pressure to “teach to the test.” In many respects, the state summative assessment becomes the de facto content standard and drives the instructional agenda, so the quality of the state summative assessments will influence the substance of the instruction. All efforts to establish new college and career ready standards can either be propelled forward or significantly set back by the quality of the assessments.
ESTABLISHING NEW PROFICIENCY CUT SCORES

No Child Left Behind (NCLB, 2001) requires states to administer assessments and establish assessment cut scores that distinguish different levels of student performance - basic, proficient, and advanced. The proficiency level is important because the provisions of NCLB hold states accountable for moving all their students to proficiency. Proficiency scores signal what is “good enough” at each grade level. But what is “good enough” has not been the same from state to state. For instance, it has been harder for students to score proficient in Massachusetts than in Georgia. Importantly, a recent study of comparable state results found higher cut scores correlated with higher student achievement.

States that raise standards will want to establish proficiency cut scores on new state assessments that reflect high expectations. New assessments should report results that give students, educators and parents a clear sense of where a student is on the path to college and career readiness and establish meaningful, proficiency cut scores benchmarked against national and international expectations. While instituting new, more rigorous assessments has traditionally resulted in assessment scores dropping in the short term, this change should anchor the expectations in the rigorous, real-world goal of getting students prepared for life.

ASSESS HIGHER-ORDER THINKING

In Tough Choices or Tough Times, the New Commission on The Skills of The American Workforce asserts, “If someone can figure out the algorithm for a routine job, chances are that it is economic to automate it.” One long-standing definition explains higher-order thinking as “non-algorithmic...that is, the path of action is not fully specified in advance.” The ability to solve novel, non-routine problems is of increasing value in the workplace, and thinking critically, including the ability to evaluate, synthesize, and create, is central to college and career ready content standards. Yet, higher-order thinking has proven challenging to measure with current assessments. A recent study of current state tests found that only two percent of mathematics items and one out of five English language arts items assessed higher-levels of cognitive demand. The requirements of new content standards and advances in assessment technology should motivate test developers to create new assessments that measure deeper learning. Assessment developers must be able to produce convincing evidence that their assessments will require students to demonstrate higher-order thinking.

The Case for Comparability

While current state tests provide useful information, they do not provide information on how student achievement compares to other states. Because all states are committed to college and career readiness, similar standards, assessments and cut scores might be used across state lines. States could then compare results. Comparable assessments tell a clearer story about achievement, help further educational research and reinforce the

NAEP Proficiency Scores versus State Proficiency Scores

The National Assessment of Educational Progress (NAEP) — often referred to as the nation’s report card — is a nationally representative assessment given to measure the nation’s educational progress. When proficiency rates on state exams are compared with proficiency rates on the eighth-grade NAEP, a gap in expectations is readily apparent. The gap is 40 percent in English language arts and 32 percent in mathematics.

ASSESS KNOWLEDGE AND SKILLS WITH WRITING AND PERFORMANCE TASKS

The majority of current state assessments use predominantly multiple-choice questions; they are cheap, can quickly assess a large amount of content, and are easy to score. Many states use only multiple-choice questions on some of their summative assessments. The reliance on multiple-choice questions is unpopular with many educators and seen as too often measuring lower-level, recall skills rather than higher-order thinking. For instance, testing how well a student can compose a well-reasoned argument in support of a claim will require a student to write. Additionally, written responses can reveal aspects of a student’s thinking and reasoning that multiple-choice questions may not.

Content standards that call for research, communication, or complex problem-solving require performance tasks to be measured accurately. Performance tasks present students with real problems. For instance, students might be presented with background information on a problem - like health care costs - and have to analyze competing points of view on the topic, devise a course of action, and develop a presentation to argue for that course of action.

The jobs graduates will apply for will often depend on the clarity, accuracy, and persuasiveness of writing; universities and community colleges require strong writing skills for success. The real world requires working on tasks that defy easy answers. College and career ready assessment systems should incorporate a wide variety of assessment item types including items that require students to write and perform authentic, real-world tasks.

ALIGNMENT Cost vs. Quality

A recent Report from the Government Accountability Office (GAO), indicates that states in the last 10 years have shifted toward multiple-choice questions and away from open-ended, constructed response questions largely as a cost and time-saving measure. Requiring students to construct their responses (e.g. write or design) on a summative assessment currently requires at least some human scoring. Scorers must be hired to evaluate student responses, and this typically costs more money than machine-scoring a multiple-choice bubble sheet. Additional costs might be anticipated as well for items that require development of computer simulations or extended performance tasks that require outside scorers.

The cost of assessments varies widely across states ranging from $13 to $105 per student, with an average of $27 per student. Only a small portion of current K-12 education spending goes toward assessments — one-quarter of one percent. Analyses have shown the largest influence on cost per student is the total number of students in the state; the more students in a state, the less the cost per student. This is a result of fixed costs being distributed over a larger number of students and larger states having bigger contracts and more bargaining power.

While high-quality assessments will cost more, a recent cost analysis indicates that by teaming with other states and implementing additional cost-saving measures, states may be able to implement higher-quality assessments that measure more accurately the demands of college and career.


Digital technologies hold great promise for helping to bring about many of the changes in assessment that the Commission believes are necessary. Technologies available today and innovations on the immediate horizon can be used to access information, create simulations and scenarios, allow students to engage in learning games and other activities, and enable collaboration among students. Such activities make it possible to observe, document and assess students’ work as they are engaged in natural activities — perhaps reducing the need to separate formal assessment for accountability from learning in the moment.

THE GORDON COMMISSION ON THE FUTURE OF ASSESSMENT. (2013) A Public Policy Statement

States have been administering online assessments since as early as 2001 when Virginia began its online assessment program. Between 2001 and 2012 thirty-two other states shifted partially or wholly to online assessment.

State Educational Technology Directors Association website. (2014) Available at: http://www.setda.org/priorities/online-assessment/

Technology is transforming life. Education is no exception. Instruction and assessment delivered via computers and other electronic devices offer new possibilities for personalizing and improving learning. In many ways, technology may blur the lines between assessments and instruction.

Increasingly, the ability to analyze and think critically about media (typically with text, video, and graphics) is a vital skill for college and work. The use of video, audio, voice-capture, interactivity and simulations are all possible and may prove integral to developing more aligned assessments. Online delivery of assessments can assist educators in very practical ways and save time. For instance, scoring is made significantly easier because multiple-choice questions can be scored instantaneously without scanning bubble sheets, and writing samples can be distributed to scorers quickly and inexpensively.

Finally, moving to online assessments positions schools for future innovation in both assessment and instruction. Imagine assessments that require a student to program code, voice an online presentation using digital media, or work in a simulated laboratory. Question types delivered via digital devices will likely evolve over time to yield clearer insight into student thinking.
Virginia’s Standards of Learning (SOL) Technology Initiative set the goal of establishing a computer-based instructional and testing system, and administering all state assessments online by fiscal year 2013. The initiative cited improved efficiency of data collection, increased accuracy of data, and increased test security among other reasons for setting these goals and allocating resources to the initiative.

http://www.doe.virginia.gov/testing/

Idaho, with many small, rural districts, used the Idaho Education Network to bring high-speed broadband to every school, then focused efforts on professional development around technical skills at the local level to ensure schools were able to successfully deliver online assessments.

http://assessmentstudies.setda.org/casestudies/idaho/#!/history-and-background

DELIVERY Cost vs. Quality

The costs of online delivery are challenging to estimate. For many states, moving to device-enabled assessments will require significant investments up front, including devices and infrastructure. However, online delivery can also save money by eliminating the need for printing and shipping or by automating more scoring.

In weighing costs and benefits, policymakers will want to consider that many of the instructional advantages are even more compelling than the significant advantages of delivering assessments on devices. States (and districts within states) vary widely in their readiness for the delivery of online assessments and digital learning. An inventory of devices, connectivity, and readiness is a good starting place when considering the costs to move to online assessments.

BUYER BEWARE: While the use of technology can improve assessments through features like computer adaptive technology or interactivity, there is very little inherent value in delivering an assessment on a computer or digital device. For instance, taking standard multiple-choice test items and transferring them onto a computer doesn’t make a better assessment.

While technology implementation can require an outlay of up-front and ongoing costs, digital learning and technology can also provide more efficient use of human and fiscal resources, increase the productivity of teachers and administrators, and, most importantly, create conditions that raise student academic outcomes.

NCLB requires that students be tested annually using state summative assessments (see chart). Schools are accountable for results on annual summative assessments, but make local instructional decisions. Schools and districts create or adopt their own curriculum and instructional materials. Because summative tests are primarily used for accountability and are taken at the end of the year, they do not provide ongoing, fine-grained data on student learning necessary for instructional purposes.

In a balanced assessment system, teachers have the tools to check for understanding during the year in order to provide students with regular descriptive feedback and adjust their instruction to meet all students’ needs. Local control is honored, and schools and districts use formative and interim assessments when and where it is important for instruction. States have not typically funded assessments for learning (like flexible classroom assessment tools) to the same degree as summative assessments; yet, these assessment practices are the most frequently used and instructionally valuable.

When considering balanced assessment systems, states should pay the same attention to the quality of district, and classroom assessment tools as they do to summative assessments. Too often, low-quality summative assessments have led to a cascade of low-quality, district, interim assessments. In considering assessments, policymakers should look for comprehensive, integrated and aligned systems that include flexible, high-quality tools for district, school and classroom purposes, as well as for state summative purposes.

### Cost vs. Quality

Enabling the use of a balanced assessment system has a variety of cost implications. They might include:

- Considering contracts with summative assessment vendors that include high-quality tasks and tools that are usable by schools and districts at their own discretion.
- Supporting professional development in diagnosing student needs and using data to improve instruction.
- Developing online spaces for collecting and sharing teacher best practices around assessment for learning.
Assessments matter — for measurement and for instruction.

Assessments matter in education. They impact teachers, principals, parents, policymakers and, most importantly, students. The use of assessment in educational policy is rarely a home run; more often, pros and cons need to be considered. The table below discusses a few of the impacts to be considered as states move to college and career ready assessments.

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<th>Impact</th>
<th>Intended Impact: Ensure teachers and students work toward goals that prepare students for college and career, and hold high standards for all, regardless of race, class or ethnicity. Other Consequences: Instituting new, more rigorous assessments has traditionally resulted in assessment scores dropping in the short term. Because of this, policies like exit exams (for students), evaluations using achievement data (for teachers and principals), and accountability categories (for schools and districts) should be considered and, if necessary, adjusted in advance of the implementation of the new assessments.</th>
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<td>Establishing new proficiency cut scores</td>
<td><strong>Intended Impact:</strong> Create assessments that accurately measure achievement of college and career ready standards; ensure that teachers and students believe the assessments are worth taking; incentivize instruction designed to teach the full range of important knowledge and skills and not a narrowed set of skills dictated by a narrow assessment. Other Consequences: The delivery of the assessments with writing and performance tasks may take more time than past assessments that relied almost wholly on multiple-choice questions. In some cases, new assessments may cost more to deliver than previous assessments; students and teachers may find these tests more challenging and will need support in implementing the new assessments.</td>
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<td>Improving assessment alignment</td>
<td><strong>Intended Impact:</strong> Deliver assessments aligned to standards by taking advantage of richer item types and use of media; save time and/or money on scoring; set students up for technology-enabled learning and assessment in the future. Other Consequences: Moving to online delivery may be challenging for some rural or under-resourced schools and require system updates; ensuring enough devices are available may require reallocation of monies and/or securing of new monies to support the transition.</td>
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<td>Delivering assessments on a device instead of pencil and paper</td>
<td><strong>Intended Impact:</strong> Enable teachers to diagnose student need throughout the school year to guide instruction. Other Consequences: Ensure that educators have the skills to use a balanced system effectively and efficiently, and in such a way that they are a seamless part of instruction and not “another test.”</td>
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A Note on Time Spent Testing

Currently, many stakeholders are concerned about the amount of time spent testing in schools. Critics argue that curriculum is narrowed, districts give assessments that mimic narrow state summative tests, and this environment is at odds with the needs of students. Policymakers will do well to heed these concerns and ensure that every assessment has a clearly defined purpose, is not duplicative, and is likely to encourage great instruction. Because the amount of time spent testing is at least as much a local decision as a state-level one, professional development is an important component of ensuring high-quality assessments are used in purposeful, efficient ways that help students and create a positive learning environment. The Ohio Department of Education released a report in January of 2015 indicating that students spend approximately 19.8 hours testing per year, which equates to between one and three percent of the school year, depending on grade-level.

CONCLUSION

The four areas discussed in this brief — alignment, delivery, instructional value and impact — are not the only components of assessment quality. Among the considerations beyond the scope of this brief are technical quality, accessibly for all test-takers (including English language learners and students with disabilities), stakeholder involvement in development, quality and clarity of reporting results and transparency of testing support materials.

Given the scope and complexity of this work, calling on the involvement and sign-off of impartial assessment experts is an important part of adopting high-quality assessments. Happily, a number of resources are, or will soon be, available to assist policymakers in selection of assessments and assessment systems. The Standards for Educational and Psychological Testing (AERA, APA, & NCME) are the gold standard for guidance on testing, and the revised edition was released recently. The Council of Chief State School Officers’ (CCSSO) Criteria For Procuring And Evaluating High-Quality Assessments is an important guide for the development of college and career ready assessments. The Center for Assessment, a nonprofit with expertise in large-scale educational assessment and accountability, is developing and will release a framework based on the CCSSO criteria for evaluating college and career ready assessments to be used by states and others to do objective, expert analysis of available college and career ready assessments.
8. Ibid
12. Ibid
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