GETTING READY FOR ONLINE ASSESSMENTS

This is the third paper in a series of interactive papers that provides specific guidance regarding the adoption of Common Core State Standards and the shift to personal digital learning.

Supported by: Foundation for Excellence in Education

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December 2012
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EXECUTIVE SUMMARY

It’s just 21 months from the release of this report in December 2012 to the start of the 2014-15 school year – that’s when states and districts that have adopted the Common Core State Standards (CCSS) will begin the challenging process of administering new assessments. These new K-12 assessments, led by states working with the Partnership for Assessment of Readiness for College and Careers (PARCC) and the Smarter Balanced Assessment Consortium (Smarter Balanced), are designed to provide a common assessment in English and math. These assessments will build a pathway to college and career readiness and help measure students’ progress in achieving the standards. The results will help to better inform state policy decisions, provide a more accurate picture of student preparedness, and provide teachers with timely information to inform instruction and support students.

Preparing for these assessments will require an unprecedented collaborative effort to align instruction to the CCSS, prepare the community for the results, and ensure that schools have the necessary technological infrastructure to administer the assessments. PARCC and Smarter Balanced recently released minimum technology requirements to guide states and districts in assessing and closing the gaps between current technology capabilities and those required for students to participate in the new assessment programs. These technology and bandwidth specifications provide an important guideline to help schools prepare for the assessments and provide the technology environment needed to support next-generation digital learning tools and services.
Making the Shift
This report begins by framing the shift to online assessments within the larger framework of the transition to personalized learning. Instead of striving for readiness for the assessments, leaders should instead be preparing for the instructional shifts that the CCSS and new assessments require. Digital Learning Now! (DLN) sees the 2014-15 implementation as an important catalyst to expand overall access to technology, shift to digital tools and materials, and move toward personalized learning for all students by this deadline. DLN’s 10 Elements of High-Quality Digital Learning and Roadmap for Reform offer policy advice around the core belief that all students must have equal access to high-quality digital learning opportunities, including both summative and formative digital assessments.

Without a plan for making these broader instructional shifts, we will miss this once-in-a-generation opportunity for systemic improvement that could meaningfully and sustainably address educational equity. If leaders instead focus only on meeting the minimum requirements, schools will suffer from instructional disruptions to accommodate testing rotations, destructive gaps in student learning experiences between instructional environments and testing environments, missed opportunities to take full advantage of online formative and diagnostic assessments to personalize instruction, and the continued inefficiencies that result from the purchase of outdated equipment and materials.

Determining Readiness
After providing some background on the testing consortia and the current state of online assessments, this paper discusses the tools and resources available to help states and districts determine their readiness. This section begins describing test readiness by reviewing the recently released minimum technology requirements from each state testing consortium. The next section details the importance of using these minimums as the catalyst for launching a broader shift to instructional environments that expand equitable student access to online and blended learning. The “Countdown to 2014 Timeline” provides leaders with discrete action steps over the next two years to make these shifts.

Recommendations
The paper concludes with recommendations to states, districts, and the state testing consortia. The authors offer states and districts the following advice to help them seize the opportunities for better teaching and learning that the shift to online assessment creates.

1. Match teaching and testing environments;
2. Shift to digital instructional materials;
3. Boost access;
4. Build a plan for the greater shift;
5. Support blends;
6. Boost broadband;
7. Invest in teaching training;
8. Learn from other states;
9. Use sample items; and
10. Use Core-aligned adaptive assessment.

The consortia are advised to:
1. Encourage upgrades;
2. Plan versions;
3. Redefine comparability;
4. Go “on demand;”
5. Lean forward;
6. Don’t phase in; and
7. Support competency-based learning.

The Opportunity
Our nation’s schools stand at an important “inflection point” in the history of education. Taken together, the implementation of CCSS, the shift to online assessments, the availability of affordable devices, and the growing number of high-quality digital instructional tools create an unprecedented opportunity to fundamentally shift the education system to personalize learning around the individual needs of every student. The 2014-15 implementation of the new tests creates a timeline. With just 21 months, states and districts must act now.
In most states, September 2014 is when the preparation for online assessment stops and the implementation of the next generation of online assessment begins. While more than 30 states are now using some form of online assessments with some student populations, the 2014-15 school year will mark the start of new state testing programs that (in most states) differ in form and in function from the standardized tests of the last 15 years.

The new tests will be administered digitally, marking a fundamental change from paper-and-pencil tests that sets into motion a string of infrastructure, administration, and technology issues for educational leaders. The new tests, because they are designed to measure CCSS, will also differ considerably in the nature of the questions and required student responses. Accordingly, these inter-related shifts create an unprecedented opportunity to bring together content, technology, and assessment in deeply meaningful ways that will ultimately serve to personalize teaching and learning.

States, districts, networks, and schools have just 21 months to get ready.
The Shift to Personalized Learning

These next-generation assessments, when coupled with the implementation of CCSS, signal a broad commitment to new forms of learning – and demonstration of that learning – which is better suited to a system that prizes personalization.

Every student should have equal access to high-quality learning that is tailored to his/her unique needs, and we believe this will not be possible without access to personal digital learning opportunities. Schools must begin with the end in mind, and make expanding access to technology for personalized instruction their first priority. The next generation of assessments, and the evolution of classroom instructional practices, must mirror and serve one another. Universal access to high-quality education is a matter of equity; it is the greatest social justice issue of our time. Therefore states must not only get ready for the online assessments, they must also modify instruction to prepare students for the demands of the new assessments.

Digital Learning Now’s 10 Elements of High Quality Digital Learning is a state policy framework for the future of education based on the premise that all students have the right to a high-quality education, which in the 21st century must include digital learning.¹ The framework stems from the belief that all students are digital learners and should have access to quality learning experiences that are unbounded by geography or artificial policy constraints. Element 8 details Assessment and Accountability and spells out components of a high-quality digital assessment system.

Developed in 2010 with input from more than 100 experts, the framework was extended in 2011 to include a Roadmap for Reform that provides tangible steps toward systemic change.² Specific recommendations for state policymakers on the topic of assessment include:

- States should administer assessments digitally;
- States should provide assessments when students are ready to complete the course or units;
- States should ensure a digital formative assessment system;
- States should hold school and individual providers accountable for achievement and growth;
- States should evaluate the quality of content and courses predominantly on student learning data; and
- States should ensure that local state data systems and related applications are updated and robust enough to inform longitudinal management decisions, accountability, and instruction.

Digital Learning Now! (DLN) recently released a report, Funding the Shift to Digital Learning: Three Strategies for Funding Sustainable High-Access Environments, which highlights that every school can afford the shift with a solid plan and strong leadership. DLN also recently released Data Backpacks: Portable Records & Learner Profiles, which illustrates how improved access and learner profiles will unlock the power of personalization.
The Shift to Online Assessments
The State Educational Technology Directors Association (SETDA) 2011 report *Technology Requirements for Large-Scale Computer-Based and Online Assessment* indicates that 33 states currently require or make available some computer-based assessments; some use them for high-stakes statewide testing. This report surveys the field of state deployment of online summative assessment and individual state profiles to guide other states that are just beginning the shift. The report shows that while online assessments are just now getting national attention, Oregon and Virginia launched computer-based testing in 2001 and Texas followed suit in 2002. While the number had grown to more than 30 by 2011 (and continues to grow), at the time of writing only five states required and administered all assessments online; most of the 33 states only used computer-based testing for some of their students and grade levels. Case studies from Pearson specifically highlight the transition to online assessments in Virginia, Mississippi, and North Carolina.

Why Go Online?
- Richer and more innovative item types;
- Opportunity for more authentic assessment;
- More efficient scoring capabilities;
- Improved test security;
- Greater equity via electronic accommodations;
- Students will know whether they are on track;
- Teachers are empowered by regular results that are available to guide learning and professional development;
- Parents are given timely information about their children’s progress;
- Opportunities to personalize instruction based on more detailed and timely feedback;
- Provide comparable results across schools, districts, and states; and
- Potential cost savings.

Background on Consortia
Two years ago, the U.S. Department of Education announced the $4 billion Race to the Top (RtT) competition, which included an assessment grant competition for state consortia to develop new assessments to measure CCSS in English/Language Arts (ELA) and mathematics. This was an unprecedented opportunity to systemically address the demand for assessments that could deliver a quicker turnaround of student-level data. This data can be used to guide instruction in the short term and provide more accurate and comprehensive data to better measure student achievement and provide comparable data for school accountability over time.

Specifically, the grant guidelines stipulated that the new assessments must:
- Build upon shared standards in mathematics and ELA for college and career readiness;
- Measure individual growth as well as proficiency;
- Measure the extent to which each student is on track (at each grade level tested) toward college or career readiness by the time of high school completion; and
- Provide information that is useful in informing:
  - Teaching, learning, and program improvement;
  - Determinations of school effectiveness;
  - Determinations of principal and teacher effectiveness for use in evaluations and the provision of support to teachers and principals; and
  - Determinations of individual student college and career readiness, e.g., high school exit decisions, college course placement to credit-bearing classes, or college entrance.
In September 2010 two consortia were selected: PARCC and SMARTER Balanced. (See Appendix C for a list of membership states.) The two consortia are working with multiple providers and organizations to build the next generation of tests to measure CCSS. An important element of the program is that the federal funds are supporting state-led efforts, not a federally imposed assessment system. The federal dollars provided crucial start-up funding for states, after which sustainability becomes the state’s responsibility.

**Smarter Balanced**

The Smarter Balanced Assessment Consortium received a four-year, $175 million grant from the U.S. Department of Education’s Race to the Top assessment competition. Membership is open to any state, with 25 states currently participating. Collectively, these states represent about 40 percent of American students. The governance structure of the state-led consortium includes both Governing States and Advisory States. Washington is the fiscal agent and oversees all financial procurement on behalf of Smarter Balanced, and WestEd is the project manager. (Watch an overview video here).

Smarter Balanced’s assessment system will include multiple choice questions, extended response, technology-enhanced items, and a performance task. (View sample items here). The assessment system components are:

- A two-part summative assessment (a computer adaptive test and online performance tasks) that will:
  - Describe student achievement and growth of student learning;
  - Measure students’ progress toward college and career readiness; and
- Capitalize on strengths of computer adaptive testing to improve precision and turnaround.
- Optional interim assessments (as determined by local leaders) will:
  - Help determine students’ strengths and limitations in relation to the CCSS;
  - Be fully accessible for instruction and professional development; and
  - Support the development of state end-of-course (EOC) tests.

**PARCC**

PARCC received a four-year, $186 million grant through the U.S. Department of Education’s Race to the Top assessment competition to support the development and design of the next-generation assessment system. PARCC currently consists of 22 states, plus the District of Columbia and the U.S. Virgin Islands. Taken together, these states serve 25 million students and include 10 of the 12 Race to the Top state winners. Florida is PARCC’s fiscal agent, and it is managed by the nonprofit group Achieve. The PARCC Governing Board consists of the K-12 chief state school officer from each Governing State.

PARCC’s assessment system will include a mix of constructed-response items, performance-based tasks, and computer-enhanced, computer-scored items (see prototype items here). The program will consist of:

- Two summative, required assessment components - and end of year assessment and a performance assessment - designed to:
  - Measure the full range of standards and full performance continuum;

For details and updates related to the consortia and their assessment program plans, visit parcconline.org and smarterbalanced.org. For a comprehensive overview of the consortia and their plans, check out the ETS Consortia Guide.
- Measure students’ progress towards “college and career readiness”; and
- Provide data for accountability uses, including measures of growth.

- Two optional non-summative assessment components - a flexible diagnostic assessment and a midyear interim assessment - designed to generate timely information for informing instruction, interventions, and professional development during the school year; and
- A third non-summative component in ELA/literacy will assess students’ speaking and listening skills.

PARCC will also develop flexible formative tools for students in grades K-2.

The Smarter Balanced and PARCC approaches are similar in key ways; they feature a mix of item types and technology-enhanced and performance-based tasks. Both consortia will use both computer scoring and expert graders, with a quick results turnaround of approximately two weeks. Both plan to employ an online reporting system and digital resource library. And while PARCC will use fixed-form tests and Smarter Balanced will use adaptive testing, both consortia have committed to moving their assessment systems online.

The new tests will reflect the deeper learning aspirations of the CCSS, and the evolution to digital assessments will harness the potential of technology to construct new ways for students to interact with questions through simulations, games, and digital manipulations that are more engaging. These assessments will offer more detailed and meaningful student data, and with the improved timeliness of results, the data can be used to make instructional modifications by matching student needs to targeted professional development and by creating a system that allows for more personalized learning. These tests will also decrease costs in most cases and provide vastly improved test security.

Developments in intelligent scoring have also made it possible to include a significant amount of writing on these new tests, as well as constructed-response items and innovative performance tasks. With the employment of adaptive testing technology (in Smarter Balanced states), students will be presented with test items that are matched dynamically to their ability levels. In sum, online assessments will power the future of customized learning – the best chance we have to dramatically boost achievement levels and better prepare students for college and career.

Linda Darling-Hammond, Senior Research Advisor for Smarter Balanced, speaks to this point when describing students’ opportunity for performance tasks under the next-generation assessments: “Performance tasks ask students to research and analyze information, weigh evidence, and solve problems relevant to the real world, allowing students to demonstrate their knowledge and skills in an authentic way.”

The Hewlett Foundation-funded Automated Student Assessment Prize (ASAP) was constructed to support the aims of the state testing consortia – better tests of higher-order skills at a lower price. Meeting these objectives will require automated scoring of constructed-response tasks. In a February demonstration, nine testing companies showed that “machine scoring engines did as well as or better than the human graders,” as reported by Dr. Mark Shermis, author of the study summarizing the demonstration, Contrasting State-of-the-Art Automated Scoring of Essays. ASAP is planning a math prize, an innovative item prize, and classroom trials of online writing assessment platforms.
Other Assessment Consortia

In addition to the two main testing consortia funded by the Race to the Top competition, a few others have emerged that target special student populations; they are expected to coordinate with the PARCC and Smarter Balanced assessments. These include the Dynamic Learning Maps (DLM) Consortium, the National Center and State Collaborative (NCSC) Consortium, the Assessment Services Supporting English learners through Technology Systems (ASSETS) and the English Language Proficiency Assessment for the 21st century (ELPA21). The U.S. Department of Education awarded $22 million to DLM (through the Office of Special Education Programs), $45 million to NCSC, $10.5 million to ASSETS, and $6.3 million to ELPA21. These consortia plan to implement both formative and summative assessments as well as teacher resources. DLM, led by the University of Kansas Center for Research, is a coalition of 13 original states. NCSC, led by the National Center on Educational Outcomes at the University of Minnesota, is a coalition of 19 states. ASSETS is led by the Wisconsin Department of Public Instruction and has 29 member states. The assessments are scheduled to be ready for use in the 2014–15 school year, when the comprehensive assessment systems are due to become operational. (See Appendix C for more details.)

As part of the test development, PARCC and Smarter Balanced both recently released sample assessment items and tasks to provide a glimpse into the future assessments in order to guide planning and serve as a resource for implementing the CCSS and preparing the new tests. Both consortia intend to release additional items over the coming months to create a more comprehensive picture of the new assessments, with the goal of informing changes in instructional practices. Of the 50 representative items and tasks provided by Smarter Balanced, ELA lead Barb Kapinus said the items provide a glimpse of the importance of text complexity. Shelbi Cole, math lead, said the items will include graphical manipulation (e.g., empty the water from this container to fill the other container) that for many students should make the questions more clear and for some reduce the language barrier.

The Smarter Balanced assessment system includes a variety of item types: selected-response items prompt students to select one or more responses from a set of options; technology-enhanced items take advantage of computer-based administration to assess a deeper understanding of content and skills than would otherwise be possible with traditional item types; constructed-response items prompt students to produce a text or numerical response in order to collect evidence about their knowledge or understanding of a given
assessment target; and performance tasks measure a student’s ability to integrate knowledge and skills across multiple standards – a key component of college and career readiness.  

PARCC’s item and task prototypes reveal similar shifts. Mitchell Chester, chair of the PARCC Governing Board, stated “the prototypes are a first step in demonstrating what is possible with new assessment technology that captures students’ application of knowledge and skills that are essential to success in the 21st century.” PARCC’s release of sample items was accompanied by an explanation of the tight alignment between the CCSS and PARCC assessments in order to ensure that the assessments mirror classroom expectations. These six shifts, three in mathematics and three in ELA, reveal a greater emphasis on complexity, evidence, knowledge in ELA, and more focus, rigor, and coherence in mathematics.

The sample items and tasks prototypes released by the consortia underscore the importance of coordinating instructional and assessment practices. Shifts in both arenas necessitate an in-depth analysis of current practices to determine how existing systems stack up against future needs. The move to online assessments is an important pivot point, and states and districts must begin now.
DETERMINING READINESS

When it comes to determining readiness, states and districts must consider a number of factors, ranging from measurable variables (such as how existing technology stacks up against minimum requirements) to more complex factors (such as staff and community readiness, professional development needs, and plans for overall instructional shifts and technology integration).

Readiness Factors
In January 2012, PARCC and Smarter Balanced awarded a contract to Pearson to develop and administer a Technology Readiness Tool. SETDA has been working in partnership with both major consortia to address the issue of readiness by serving an advisory role on the consortia’s activities, including the development of the Technology Readiness Tool.

The tool, the first iteration of which was launched in spring 2012, is meant to be used as an inventory to take stock of current devices, operating systems, and infrastructure. The tool is intended to evolve over the years to assist in on-going planning. Data can be entered at any time so that states and districts can assess readiness and the consortia can periodically collect “snapshots” of the overall data. Collected data will be shared with state education stakeholders and used for analysis alongside minimum and recommended requirements. While there was limited participation in the first collection period, the results of the first Technology Readiness Tool uncovered enough information to help guide the creation of minimum technology requirements from each consortia.

Considerations for Next-Generation Assessments: Data, Technology & Online Testing: A Roadmap to 2014 provides guidance and five action steps for making a smooth transition to online assessments.
## Smarter Balanced Minimum Technology Requirements

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<th>Minimum Smarter Balanced Requirements for Current Computers</th>
<th>Recommended Smarter Balanced Minimum for New Purchases</th>
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<tbody>
<tr>
<td>Windows</td>
<td>Windows XP (service pack 3) Pentium 233 MHz processor; 128 MB RAM, 52 MB hard drive free space</td>
<td>Windows 7+ 1 GHz processor; 1 GB RAM, 80 GB hard drive</td>
</tr>
<tr>
<td>Mac OS X</td>
<td>Mac OS X 10.4.4 Macintosh computer with Intel x86 or PowerPC G3 (300 MHz) processor; 256 MB RAM, 200 MB hard drive free space</td>
<td>Mac OS X 10.7+ 1 GHz processor; 1 GB RAM, 80 GB hard drive</td>
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<tr>
<td>Linux</td>
<td>Linux (Ubuntu 9-10, Fedora 6) Pentium II or AMD K6-III 233 MHz processor; 64 MB RAM, 52 MB hard drive free space</td>
<td>Linux (Ubuntu 11.10, Fedora 16) 1 GHz processor; 1 GB RAM, 80 GB hard drive</td>
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<tr>
<td>iOS</td>
<td>iPads 2 and 3 running iOS6</td>
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<tr>
<td>Android</td>
<td>Android-based tablets running Android</td>
<td>Android-based tablets running Android 4.0+</td>
</tr>
</tbody>
</table>

### Additional Purchasing Guidelines

1 GHz processor, 1 GB RAM, 9.5-inch screen (10-inch class); screen resolution of 1024 x 768; network: must be able to connect to the Internet; form factors: desktops, laptops, netbooks, virtual desktops, and thin client tablets (iPad, Windows, and Android) and hybrid laptop/tablets that meet the above specifications; and additional accessories: headphones may be required for audio support, and physical keyboards.
### PARCC Minimum Technology Requirements

#### Desktop, Laptop, Netbook, and Thin Client/VDI Computers

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<thead>
<tr>
<th>Operating system</th>
<th>Minimum Specifications</th>
<th>Recommended Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>Windows XP3 – Service Pack 3</td>
<td>Windows 7 or newer</td>
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<tr>
<td>Mac OS X</td>
<td>Mac OS 10.5</td>
<td>Mac OS 10.7 or newer</td>
</tr>
<tr>
<td>Linux</td>
<td>Ubuntu 9-10, Fedora 6</td>
<td>Linux: Ubuntu 11.10, Fedora 16 or newer</td>
</tr>
<tr>
<td>Chrome OS</td>
<td>Chrome OS 19</td>
<td>Chrome OS 19</td>
</tr>
</tbody>
</table>

#### Additional Guidelines

- **Memory**: 512 MB of RAM or greater
- **Screen Requirements**: 9.5 inch screen size or larger, 1024 x 768 resolution or better
- **Connectivity**: Computers must be able to connect to the Internet via wired or wireless networks.
- **Security**: Eligible devices of any type or operating system must have the administrative tools and capabilities to "lock down" the device to temporarily disable features, functionalities, and applications that could present a security risk during test administration.

#### Tablets

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<th>Minimum Specifications</th>
<th>Recommended Specifications</th>
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<td>Android 4.0</td>
<td>Android 4.0 or newer</td>
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<tr>
<td>Apple iOS</td>
<td>iPad 2 running OS 6</td>
<td>iPad 2 or 3 running iOS6</td>
</tr>
<tr>
<td>Windows</td>
<td>Windows 8</td>
<td>Windows 8 or newer</td>
</tr>
</tbody>
</table>

#### Additional Guidelines

- **Memory**: 1 GB RAM or greater
- **Connectivity**: Must be able to connect to the Internet via wired or wireless networks.
- **Screen Requirements**: 9.5 inch screen size or larger, 1024 x 768 resolution or better
- **Input Device Requirements**: External Keyboard (mechanical or physical keyboard)
- **Security**: Eligible devices of any type or operating system must have the administrative tools and capabilities to "lock down" the device to temporarily disable features, functionalities, and applications that could present a security risk during test administration.
- **Additional**: Smaller tablets (screen size less than 9.5"), e-readers, and smartphones will not be supported and will not be compatible with PARCC assessments for 2014-2015.

*These recommendations are preliminary and are subject to change by PARCC.*

[www.parcconline.org/technology](http://www.parcconline.org/technology)
The Technology Readiness Tool provides just one example of tools available to help district and state leaders evaluate current technology capabilities, identify gaps, target assistance, build awareness, and inform planning. Tools such as Education Super Highway and Smarter Balanced’s own Bandwidth Analyzer provide states and districts with the ability to determine their current broadband capabilities and where additional investment might be needed. Efforts such as Louisiana’s Technology Footprint provide a model for a statewide support system to assist districts in evaluating, planning, and implementing the shift to CCSS and the related assessments.

**Technology Guidelines**
Both testing consortia recently released the minimum technology requirements for participating states. The consortia provide a set of testing requirements for current computers and a set of requirements for new purchases. The recommendations are intended to guide implementation of online testing environments in the 2014-15 school year and do not imply that meeting the minimums for testing are sufficient to ensure high-quality instructional environments.

Minimum requirements are just that – the bare minimum technical specifications needed for the technology to work. It is critical that districts plan not for the minimum, but for what is needed to deliver a high-quality learning experience for students and teachers.

The 12-week testing window may accommodate student-to-computer ratios as high as 4:1 with multiple shifts in a testing lab, but that would fundamentally disrupt the instructional program for several weeks at the end of the year. Low student-to-computer ratios would also highlight the difference between the no/low-tech instructional environment and the online testing environment.

Relying on old operating systems and limited computer access also limits teachers’ ability to take advantage of online formative and diagnostic assessments, and students’ ability to benefit from personalized and adaptive instruction. Older systems can actually increase overall technology costs due to their lack of integration with other systems, devices, software, and services. Older systems and limited computer access perpetuates a system of “both, but not enough of either” – schools struggle to buy enough textbooks and workbooks as well as computer technology. Device prices have dropped sufficiently that it is cheaper to give students a tablet with digital content than a backpack of textbooks. It’s time to make the shift.
The introduction of online assessment in the 2014-15 school year provides a useful impetus to develop high-access instructional environments. Countries around the world, and districts around the nation, have made the shift with great results. There is no rational justification for implementing online testing in a low-access environment – it is conceivable; it is just a bad idea and a missed leadership opportunity.

The consortia are leading the shift to online assessment because the new assessments will be better demonstrations of student learning, provide quicker feedback to students and teachers, and will be less expensive to administer. Schools can take advantage of these benefits every day in a high-access environment. The shift to online assessment is a good opportunity for an instructional update and a computer upgrade.

Advice from SETDA further expands on this notion. Geoffrey Fletcher notes that evaluating a district’s readiness for online assessment includes “ensuring that the technology required for testing does not make instructional testing obsolete, coordinating online assessment initiatives and digital content and online professional development to leverage a single infrastructure, and ensuring that teachers and students are sufficiently prepared for online assessments.”

SETDA’s recently released *Technology Readiness for College and Career Ready Teaching, Learning and Assessment* advises policymakers and educational leaders to consider minimum technology specifications “in the context of the full range of technology issues schools are addressing today” and strongly encourages them to “undertake a proactive systems approach to addressing school technology needs for the long-term, explicitly considering the present and future technology needs to meet curricular, instructional, assessment, professional development and school operations goals.”

**The Case for High-Access Environments**

The introduction of tablets in 2010 and the drop in laptop prices make devices for every student affordable. The use of open resources could make it cheaper to provide a tablet than a backpack full of books.

12 benefits of high-access environments:

- Leverage content-embedded assessments (e.g., learning games, simulations);
- Allow frequent, free, and easy-to-administer formative and benchmark assessments;
- Power adaptive instruction (i.e., adaptive assessments linked to units of instruction);
- Encourage more student writing and more structured feedback;
- Can extend the learning day and year, and allow students to learn anywhere, any time;
- Expand access to great teachers and great learning opportunities;
- Connect parents and siblings to learning opportunities;
- Make it easier to differentiate instruction;
- Help students move at their own pace (i.e., competency based);
- Leverage teacher talent in many ways (e.g., OpportunityCulture.org); and
- Match testing environments.
DELAWARE has a law that requires all state-mandated assessments – including summative annual assessments, EOC exams, and/or high school exit exams – to be administered digitally. The Delaware Comprehensive Assessment System consists of online testing in reading and mathematics for grades 3-8 and EOC online testing for high school students in ELA, mathematics, and science. Delaware has developed criteria for implementing mandated summative online assessments. Criteria have also been established in the following areas: bandwidth capacity, hardware requirements, software requirements, length of testing window, and budgetary support for state-mandated online summative testing.

GEORGIA offers online administrations of its EOC tests and criterion-referenced competency tests (retests are only online). Georgia has developed criteria for implementing mandated summative online assessments. Criteria have also been established in the following areas: bandwidth capacity, hardware requirements, software requirements, length of testing window, and flexibility in allowing testing on demand for those ready to demonstrate mastery.

VIRGINIA has a law that requires any state-mandated assessments – including summative annual assessments, EOC exams, and/or high school exit exams – to be administered digitally, either online or on a computer. Virginia state law requires state-mandated assessments, including annual assessments and EOC exams (some required for high school graduation) to be administered online or on a computer unless a student has a documented need for a paper/pencil test. The state supports school districts in providing digital formative assessments (there is no current plan to implement this at the state level). State-mandated assessments include: reading and EOC reading, grades 3-8; mathematics and EOC algebra I, EOC geometry, and EOC algebra II, grades 3-8; writing and EOC writing, grades 5 and 8; science and EOC Earth science, EOC biology, and EOC chemistry, grades 3, 5, and 8; grade 3 history, Virginia studies, U.S. history to 1865, U.S. history from 1865, and EOC world history to 1500, EOC world history from 1500 to the present, EOC world geography, and EOC Virginia and U.S. history. Virginia has developed criteria for implementing mandated summative online assessments. Hardware requirements include a minimum processor of Windows P III 733 MHz and Macintosh G3 500 MHz for TestNav and Intel Core 2 or i5 for Proctor Caching. Software requirements include Pearson TestNav and Proctor Caching. The length of the testing window is approximately four weeks, which is selected by each school division from within the wider state testing window. Virginia provides three annual test administrations (fall, spring, and summer). Financial support for technology hardware and infrastructure includes $50,000 per division and $26,000 per school in the division annually (statewide annual total is approximately $59 million).
Which states are lighting the path to the next generation of assessments? (continued)

**Utah** has a law that requires all state-mandated assessments – including summative annual assessments, EOC exams, and/or high school exit exams – to be administered digitally, either online or on a computer. State-mandated assessments include: direct writing assessment, grades 5 and 8; ELA CRTs, grades 3-11; mathematics CRTs, grades 3-8 (algebra and geometry); science CRTs, grades 4-8 (Earth systems science, biology, chemistry, and physics). Utah has developed criteria for implementing mandated summative online assessments. Criteria have also been established in the following areas: bandwidth requirements, hardware requirements, software requirements, length of testing window, and budgetary support. Utah provides multiple testing windows to accommodate instruction ending at various points during the school year.

**Florida** has a law that requires any state-mandated assessments – including summative annual assessments, EOC exams, and/or high school exit exams – to be administered digitally, either online or on a computer. FCAT 2.0 and Florida EOC assessments are the current statewide tests and are now being transitioned to online. Florida has developed criteria for implementing mandated summative online assessments. Criteria have also been established in the following areas: bandwidth capacity, hardware requirements, software requirements, and length of testing window.

**Louisiana** has a law that requires any state-mandated assessments – including summative annual assessments, EOC exams, and/or high school exit exams – to be administered digitally, either online or on a computer. Current online EOC tests are given to high school students in the following subjects: algebra I, English II, geometry, biology, English III, and American history. Student scores are used for making graduation and course grade decisions. Louisiana has developed criteria for implementing mandated summative online assessments. Criteria have also been established in the following areas: bandwidth capacity, hardware requirements, software requirements (partial), length of testing window for online EOC tests, and budgetary support criteria (under development). (Note: Louisiana’s Technology Footprint initiative provides an outstanding model of a statewide strategy for planning, implementation, and execution of the shift to CCSS and online assessments.)

**Maryland**’s online testing is optional. High school assessments (EOC exams in algebra/data analysis, English, biology, and government) have been available online for students since 2009. Online versions of the Maryland School Assessment (MSA), given to all students in grades 3-8, are currently being phased in. The MSA in reading is being offered online for the first time in 2012-13, but only in grades 5 and 7. The MSA for science, given to grades 5 and 8, has been available since 2007.]
Online assessment creates the opportunity for better and less expensive state tests with rapid results. The 21-month timeline before the 2014-15 school year provides the perfect incentive to phase in better access to technology, shift to digital instructional materials, incorporate powerful digital tools, and create efficient blended school models. While there may be an urge to set the bar low with minimum requirements and protect legacy systems, this is the time to seize the opportunity for broad and systemic updates to American education. This section provides advice to states and districts in the form of specific recommendations and top considerations.

RECOMMENDATIONS

1. Match the teaching and testing environments. Recognize that the consortia are attempting to accommodate limited access and old technology, but don’t use these minimums as ideal recommendations. A long testing window (12 weeks before the end of school) and shifting kids through a computer lab with a computer for every four students may be logistically conceivable for testing, but it would pose a huge instructional disruption. Schools should make testing environments as close to learning environments as possible. Schools should plan for what type of technology they need to deliver the digital
learning experience students are demanding. Plan to match instructional environments with testing environments with time online every day for every student. Ideally, students will take the test on the same devices they use every day for learning. Combine the assessments with other tools that link adaptive assessment to instructional units to give students regular CCSS-aligned feedback and instruction. Phase in instructional technology. Encourage students to bring their own devices and support equitable access. Rotate students (in class or in lab) through an online environment daily. The new assessments will require teachers to teach differently and students to learn differently. The daily experiences of teachers and students must evolve to match the way both will be evaluated.

2 Shift to digital instructional materials. States and districts should follow Florida’s lead to make a commitment to transition to digital instructional materials by 2015. Where instructional materials are referenced in state law, they should include digital textbooks and content the way Indiana does. In addition to including digital content as part of their legislative definitions, states like Indiana and Texas have provided school districts with monetary flexibility to allow “textbook money” to be used to purchase devices such as tablets and laptops to expand teacher and student access to digital content.

SETDA’s Out of Print: Reimagining the K-12 Textbook in the Digital Age highlights states that are leading the way in adopting digital materials and providing recommendations, determining success factors, and sharing guiding questions for making the shift.

3 Boost access. DLN recently released a paper, Funding the Shift to Digital Learning: Three Strategies for Funding Sustainable High-Access Environments, which outlines how school districts can afford the shift – it just takes leadership over a couple of years of transition. Focus on test-ready devices (e.g., be cautious of purchasing 7-inch tablets that won’t be supported by the assessment consortia) that have the added benefit of improving the learning experience. States should consider ways to contribute to the approximately $250 cost per student per year to sustain a high-access environment. Explore ways to maximize E-rate funding and consider forming a bulk-purchasing agreement with partner districts or through state efforts like Pennsylvania’s PEPPM. States should consider joining the joint procurement effort being led by the State of Maine Department of Education in coordination with the National Association of State Procurement Officials to lower the cost of devices for their schools.

In “Start Your Online Testing Engines,” three principals share their experiences with preparing for and transitioning to online assessments. Geoff Fletcher, Deputy Executive Director for SETDA and the article’s author, indicates that “none of the principals interviewed got online assessment right the first time. Few will.” Fletcher also offers two big questions that school leaders must answer as the new assessments quickly approach:

1. Do I have enough (and the right kinds of) hardware to administer online tests to all the appropriate students?

2. Do I have enough bandwidth and Internet access to have a large number of students taking these tests online simultaneously?
4 Plan for the greater shift. Coordinate technology planning within and across states by leveraging the expertise and forums of SETDA and the Council of School Networking (CoSN). “The shift to computer-based and online assessment is only one part of a larger and longer-term shift in K-12 education toward digital instructional materials, online learning, data systems, formative assessment, online professional development, and school communications tools,” says SETDA. “Planning, deploying, and managing these investments (increasingly being made at the scale of the state) and ensuring that they can become part of a single, interoperable system will be vital to both their being cost effective and easy to use.” Overall, states and districts should work to create a flexible system now that can pave the way for further changes later – facilitating the evolution to competency-based learning, blended learning, etc.

5 Support blends. Create incentives for blended school models to improve the return on investment of improved access. Use the Next General Learning Challenge as a grant-making template. Use FSG's Blended Learning guide and case studies, funded by the Michael and Susan Dell Foundation, to develop your own blended learning model. The Innosight Institute also has a number of guides, whitepapers, and case studies to help identify the model that best meets your needs.

6 Boost broadband. Districts should test broadband access against SETDA recommendations (which are adequate for most instructional models and more than enough for test administration). By the end of the school year, states should have had all school districts run a gap analysis using tools such as the Technology Readiness Survey, Education Super Highway, or Smarter Balanced’s Bandwidth Analyzer to determine their current broadband capabilities and where additional investment might be needed.

7 Invest in teaching training. States and districts should sponsor a variety of Common Core and online assessment learning opportunities for teachers. Teachers and school leaders must have meaningful practice – in both formal professional development sessions and informally through regular application in the classroom setting – in order to become comfortable with these shifts before the full implementation of the assessments. PARCC released an implementation guide and will have Professional Development Modules and Online Professional Learning Modules available in spring 2013. Smarter Balanced will convene teacher cadres from member states in summer 2013, in addition to launching professional development materials and a full digital library of best practices and professional learning resources. CCSS professional development resources are also available from
sources such as the American Federation of Teachers on Share My Lesson, and the Council of Chief State School Officers released a variety of resources including a framework for English Language Proficiency Development Standards.

**8 Learn from other states.** States that are at the earliest stages of the shift to online assessments should learn from pioneering states (See exhibit on pages 14 and 15). States can save time by adapting existing legislation and learning from the experiences of states that are farther along the path to equitable student access to high-quality digital learning. A few statewide examples include Maine’s Learning Technology Initiative and its new Request for Proposals to negotiate lower device prices, Pennsylvania’s Act 183 E-fund, which is designed to accelerate broadband deployment to the state’s schools, North Carolina’s School Connectivity Initiative that was created to boost access and connectivity, and Louisiana’s Technology Footprint that aims to support districts on their path to readiness.

**9 Use sample items.** Use Common Core examples and consortia-released items in class (sample Smarter Balanced items here and PARCC items here). These samples can be enormously helpful in helping teachers shift their instruction and orient themselves to the new assessments. Schools should give students performance tasks that require research, judgment, summarization, and writing with evidence.

**10 Use Core-aligned adaptive assessment.** Elementary schools should use Core-aligned adaptive assessment to diagnose needs and target instruction (e.g., NWEA+Compass, I-Ready, Dreambox). High schools should use online writing assessment to significantly increase the amount of student writing and structured feedback.

**Advice to Consortia and Related Parties**

Halfway into their journeys, both PARCC and Smarter Balanced have made great progress but face a tough climb on the road to full implementation. Since the consortia balance the best interests of states, teachers, and students within existing state and federal guidelines, we offer the following recommendations to help them maintain a clear focus and continue the momentum to generate on-going awareness of the instructional shifts that the assessments necessitate.

**1 Encourage upgrades.** We understand that a significant percentage of computers in U.S. schools run Windows XP, the

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**Online Assessments and Student Data**

Student data comparability is an important issue. The DLN Smart Series paper, Data Backpacks: Portable Records & Learner Profiles, explores how new and expanded student records can power personalized learning by employing existing tools that tailor and track student learning experiences according to student needs. PARCC researchers have estimated that their new summative assessment will yield twice as many score points as the current battery of state tests. Their online Interactive Data Tool will allow users to access results to create custom reports and data visualizations that can guide instruction and be matched to individual professional development tools for teachers. Smarter Balanced plans to launch a comprehensive electronic platform that will contain a portal, educator dashboard, and digital library to help teachers collect and analyze achievement information. The consortia’s development of common performance standards and grading rubrics for the next generation of assessments is another step in the right direction, because this common set of tools will allow for better comparability across states and systems.
operating system that Microsoft introduced in 2001, but it is time for an upgrade. Microsoft confirms that after April 8, 2014, there will be no new security updates, non-security hotfixes, free or paid assisted support options or online technical content updates. Running Windows XP SP3 and Office 2003 in your environment after their end of support date may expose your company to potential risks such as security and compliances risks and lack of vendor support. Testing in XP could pose a security risk and limit item types by not supporting HTML5 and touch. If Version 1 in 2015 does run on XP, Version 2 in 2016 should incorporate features of fully supported newer operating systems.

2. **Plan versions.** As access and computing power increase, the consortia should introduce new testing versions at least every other year. Items in development are a step forward, but with touch computing and simulation there is a world of possibility when it comes to innovative tasks.

3. **Redefine comparability.** We know you’re worried about comparability and the related legal ramifications. By 2015, the days of administering the same instrument under the same conditions at the same time will be long gone. It’s time for a new definition of comparability. The Data Backpack concept forces a similar need for a new approach to comparability; the good news is that we’ll be defining comparability using an abundance of data, not a few end-of-year bubble sheet items.

4. **Go “on demand.”** You can facilitate competency-based learning (at least at the secondary level) with assessments that can be given on demand or on a frequently scheduled basis. Cisco offers about 40,000 simulation-based exams for certification every week – this is very doable!

5. **Lean forward.** We appreciate the cost pressures states face, but we need better tests more than cheaper tests. You can’t pandering to the lowest common denominator and advance the sector.

6. **Don’t phase in.** With two years left to prepare, the combination of a long test window and supporting outdated operating systems allows almost all schools to support online testing now. Going further to support paper-and-pencil testing in and past 2015 is unnecessary, expensive, and reduces comparability.

7. **Support competency-based learning.** Both consortia have set up Proficiency-Based Learning Workgroups to explore how assessment design can support competency-based learning models. It is critical for the consortia to not just deploy the new assessments but also to build in the flexibility and innovation to allow the assessments to support next generation models of learning where students earn credit based on demonstrated proficiency, not just seat time.
At the start of the 2014-15 school year, partner states in the two testing Consortia - PARCC & Smarter Balanced - will begin implementation of the next generation of student assessments. The two Consortia have released their timelines. States and districts can use the assessment requirements as a pivot point to make instructional shifts to advance personalized learning.

Recommendations with the ✪ will take schools beyond minimum guidelines and launch them on the path to personalized learning.

- Partnership for Assessment of Readiness for College and Careers (PARCC)
- Smarter Balanced Assessment Consortium

### Timeline

#### 2013

- **Winter 2012/2013:** Sign up for your Consortia newsletter, check the website, join webinars
- **Evaluative & Performance Level Descriptors for PARCC, comment through Jan 2013**
- **Sign up to participate in field tests**
- **Research blended learning and device strategies**
- **Launch a statewide effort for district participation in Tech Readiness Tool (early 2013) and set a goal for 100% participation by Summer 2013**
- **Identify resources from CCSSO, SETDA, CoSN, Consortia, other states**
- **Test broadband speeds against SETDA recommendations with tools from Education Superhighway, SETDA or Smarter Balanced**
- **Host at least quarterly PD sessions to guide instructional strategies**
- **Survey teachers and administrators on professional development needs**
- **Evaluate minimum specs against current technology available**
- **Consider statewide device purchasing agreements (e.g. MLTI)**
- **Determine policy changes needed to support implementation**

### Consortia

- **Early 2013:** Begin development of Exemplar Instructional Modules in ELA
- **Early 2013:** Begin development of online PD materials
- **Early 2013:** Launch a statewide effort for district participation in Tech Readiness Tool (early 2013) and set a goal for 100% participation by Summer 2013
- **Winter/Spring 2013:** Pilot test of summative/interim items/tasks
- **Winter 2012/2013:** First year pilot/field testing, related research and data collection

### States & Districts

- **Summer/Fall 2013:** Review Achievement Level Descriptors for Smarter Balanced & Performance Level Descriptors for PARCC, comment through Jan 2013
- **Sign up to participate in field tests**
- **Research blended learning and device strategies**
- **Test broadband speeds against SETDA recommendations with tools from Education Superhighway, SETDA or Smarter Balanced**
- **Host at least quarterly PD sessions to guide instructional strategies**
- **Survey teachers and administrators on professional development needs**
- **Evaluate minimum specs against current technology available**
- **Consider statewide device purchasing agreements (e.g. MLTI)**
- **Determine policy changes needed to support implementation**

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**The COUNTDOWN to Next Generation Assessments**
<table>
<thead>
<tr>
<th>Timeline</th>
<th>Event Description</th>
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<tbody>
<tr>
<td><strong>2012-13:</strong></td>
<td>First year</td>
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<td>Winter/Spring Training materials available on website, join webinars.</td>
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<td>Spring: Begin of Exemplar materials of online PD</td>
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<td>Summer: Launch of summative assessments.</td>
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<td>Fall: Continue to make summative assessments.</td>
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<td>Winter: Continue use of formative assessments in prep for summative assessments.</td>
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<td><strong>2013-14:</strong></td>
<td>Second year pilot/field testing, related research and data collection</td>
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<td>Winter/Spring Launch of first phase of improved access to technology.</td>
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<td>Summer: Achieve 100% district participation in Tech Readiness Survey</td>
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<td>Fall: Develop a BYOD plan to create high access environments</td>
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<td></td>
<td>Winter: Launch blended learning pilots.</td>
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<td>Spring: Form a strategic plan to match the teaching and testing environments</td>
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<td>Commit to conversion to digital instructional materials by 2015</td>
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<td></td>
<td>Pick blended learning and device strategy</td>
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<td></td>
<td>Plan multi-year device purchases based instructional needs</td>
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<td>Coordinate tech planning within/across states by leveraging SETDA &amp; CoSN</td>
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<td></td>
<td>Create incentives for blended learning to leverage improved access to technology</td>
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<td></td>
<td>Create and publicize state and district implementation timelines</td>
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<td><strong>2014:</strong></td>
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<tr>
<td></td>
<td>Spring: Develop a plan to implement Core-aligned adaptive or diagnostic assessment</td>
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<td>Summer: Screen materials, OER, services for alignment with CCSS and assessments</td>
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<td>Fall: Develop 12 month countdown to implementation with monthly benchmarks</td>
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<td>Winter: Use sample SBAC items here and PARCC items to inform instruction; assign tasks that require research, judgment, summarization, and writing with evidence</td>
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<td>Summer: Continue to vet states' and districts' Consortia, SETDA, CoSN, CCSSO, resources from other states' Consortia, SETDA, CoSN, CCSSO, expectations.</td>
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<td>Fall: Propose policy changes needed to support implementation</td>
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<td>Winter: Boost assessment awareness with parent/community</td>
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<td></td>
<td>Spring: Continue to vet CCSS-aligned materials</td>
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<td><strong>2015:</strong></td>
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<td></td>
<td>Summer: Final achievement standards verified.</td>
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<td>Fall: States administer assessment during the school year</td>
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<tr>
<td></td>
<td>Winter/Spring Assessments and scores calculated.</td>
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<td></td>
<td>Summer: States administer assessment during the school year.</td>
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<td>Fall: Continue to make summative assessments.</td>
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<td>Winter: Continue use of formative assessments in prep for summative assessments.</td>
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### 2014

- **Spring 2014:**
  - Field test scoring
- **Summer/Fall 2014:**
  - Training materials available on interpreting assessments
- **Fall 2014:**
  - Assessments and digital library ready for use by states
- **Winter 2014/2015:**
  - Continue to make state and district implementation timelines publicly available
- **Spring 2014:**
  - Develop summer professional development institute
- **Summer 2014:**
  - Host state and district PD sessions using consortia training materials
  - Make policy changes needed to support implementation
- **Fall 2014:**
  - Begin implementation of assessments
  - Launch second phase of improved access to technology
  - Expand blended learning programs
- **Winter 2014/2015:**
  - Continue use of formative assessments in prep for summative assessments
- **Spring 2015:**
  - Administer summative assessments during the last 12 weeks of the school year

### 2015

- **Summer 2015:**
  - Set achievement levels, including college-ready performance levels
  - Final achievement standards verified and adopted

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**Digital Learning Now!**

- **Download Report**
  - Getting Ready for Online Assessments

- **Twitter**
  - [Digital Learning Now! (@DigLearningNow)](https://twitter.com/DigLearningNow)
  - [Foundation for Excellence in Education (@ExcelinEd)](https://twitter.com/ExcelinEd)
  - [Getting Smart (@Getting_Smart)](https://twitter.com/Getting_Smart)

**DLN Smart Series**

- #smartseries
ETS outlines four forces that are converging to create a critical “inflection point” in assessment: 1) technological, social, and economic trends are changing the skills needed for citizenship and employment; 2) the power of personal digital and computing devices (and the number of people with daily access to them) are increasing exponentially; 3) cognitive science, a fairly young field, is creating new and powerful insights into how people learn; and 4) the demand for K-12 education learning and assessment tools has exploded and is reaching levels that will spur greater investment and innovation.

This shift to online assessment creates the opportunity for better data to inform short-term instruction and long-term accountability efforts. Because they are designed around the CCSS, they will better measure achievement against internationally benchmarked standards for college and career readiness. But there is another prospect available: using next-generation assessments as a pivot point to expand access to technology, shift to digital instructional materials and tools, and move toward personalized learning opportunities for all students.

New tests create a timeline. With just 21 months from December 2012 until the school year of full operational administration of the PARCC and Smarter Balanced assessments in the fall of 2014, states and districts can’t afford to wait. It’s worth noting that, by its nature, standardized testing tends to lag behind instruction in the adoption of new technology. The consortia have set a low bar for technology requirements – they should be viewed as a bare minimum for testing in less than ideal circumstances, not instructional design specifications. It is virtually assured that readiness for instruction will mean readiness for assessment. In other words, plan high-access instructional environments for the 2014-15 year and they will be more than adequate for testing.

The 21-month timeline provides an appropriate pivot point for the shift to digital instructional materials. The combination of digital content and digital assessment provides more than sufficient rationale (benefits and savings) to support an increase in improved access to technology.

State and district leaders need to actively leverage the resources, expertise, and services provided by groups such as SETDA, CoSN, Digital Learning Now, and the Alliance for Excellent Education in accelerating their efforts to preparing for the new assessments. States should have an active dialog with district leaders about devices, testing windows, and professional development and devise a plan for handling issues such as access and connectivity as they plan for the broader shift to personalized, technology-rich learning opportunities.

CONCLUSION
APPENDIX A: SMARTER BALANCED HARDWARE AND OPERATING SYSTEMS INFOGRAPHIC

Smarter Balanced Hardware & Operating Systems Infographic
# Appendix B: State Membership in Assessment Consortia

Updated December 10, 2012. For a description of each Assessment Consortia please see the guide on our website.

<table>
<thead>
<tr>
<th>State</th>
<th>Comprehensive Assessment Consortia</th>
<th>Alternate Assessment Consortia</th>
<th>English Language Proficiency Consortia</th>
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**PARCC:** Partnership for the Assessment of Readiness for College and Careers [www.parcconline.org](http://www.parcconline.org)

**SBAC:** Smarter Balanced Assessment Consortium [www.smarterbalanced.org](http://www.smarterbalanced.org)

**DLM:** Dynamic Learning Maps Assessment Consortium [www.dynamiclearningmaps.org](http://www.dynamiclearningmaps.org)

**NCSC:** National Center and State Collaborative [www.ncscpartners.org](http://www.ncscpartners.org)

**ASSETS:** Assessment Services Supporting ELLs Through Technology System [http://assets.acers.org](http://assets.acers.org)

**ELPA21:** English Language Proficiency Assessment for the 21st Century (website expected in January 2013)

*PAC-6* consists of six entities: American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Palau and Republic of the Marshall Islands.

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APPENDIX C:
ONLINE ASSESSMENT RESOURCES

PARCC
PARCC Website http://www.parcconline.org/
PARCC Technology Website http://www.parcconline.org/technology

Smarter Balanced Assessment Consortium
Smarter Balanced Website http://www.smarterbalanced.org/
Smarter Balanced Technology Website http://www.smarterbalanced.org/smarter-balanced-assessments/technology/

Useful Websites
Achieve The Core http://www.achievethecore.org/
Alliance for Excellent Education, Project 24 http://www.all4ed.org/project24
Assess4Ed Online Community http://assess4ed.net/
ETS K-12 Center Assessment Consortia Website http://www.k12center.org/publications/assessment_consortia.html
Louisiana Technology Readiness Footprint Website http://www.louisianaschools.net/footprint/
SETDA State Education Policy Center Database http://setda.org/web/guest/sepc

Reports


Webinars
Alliance for Excellent Education Webinars http://www.all4ed.org/events/past
ETS K-12 Webinars http://www.k12center.org/events/webinars.html
PARCC Webinars http://www.parcconline.org/parcc-transition-implementation-webinars
Smarter Balanced Webinars http://www.smarterbalanced.org/resources-events/webinars/
AUTHOR BIOS

John Bailey
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John serves as the Executive Director of Digital Learning Now!, a national initiative of the Foundation for Excellence in Education that works with policymakers and innovators to accelerate the adoption of new models of education. John previously served at the White House as Special Assistant to the President for Domestic Policy during the Bush administration and was the Deputy Policy Director for the U.S. Secretary of Commerce, where he worked on innovation policy. John’s experience also includes working at the Bill and Melinda Gates Foundation, where he built a portfolio of advocacy grants to advance college- and career-ready policies. He served as the nation’s second Director of Educational Technology and has been a formal or informal advisor to three presidential campaigns. He is on the Board of Directors for the Data Quality Campaign and serves on the regional board for the social innovation fund Indego Africa. He also serves as a Senior Advisor to Whiteboard Advisors, which provides strategic consulting for investors, philanthropies, and entrepreneurs.

Carri Schneider
Director of Policy and Research, Getting Smart
Carri is the Director of Policy and Research at Getting Smart. With a background in both policy and practice, she has taught in classrooms from elementary schools to college campuses. Carri has served as an online educator since 2005 in a fully online master’s program in Educational Leadership and has authored several pieces on the future of education. She co-edited the book Building a 21st Century U.S. Education System with Bob Wehling, published by NCTAF. Carri has been actively involved in supporting education policy efforts to advance digital and blended learning opportunities as a consultant to state and national organizations, including KnowledgeWorks. She holds an M.Ed. in Educational Administration and an Ed.D. in Urban Educational Leadership.

Tom Vander Ark
Author and Executive Editor, Getting Smart
Tom is the author of Getting Smart: How Digital Learning is Changing the World and the Executive Editor of GettingSmart.com. He is also a Partner in Learn Capital, a venture capital firm that invests in learning content, platforms, and services with the goal of transforming educational engagement, access, and effectiveness. Previously he served as President of the X PRIZE Foundation and was the Executive Director of Education for the Bill and Melinda Gates Foundation. Tom was also the first business executive to serve as a public school superintendent in Washington State. Tom is a Director of the International Association for K-12 Online Learning (iNACOL) and several other nonprofits.

ACKNOWLEDGEMENTS

This paper was crafted based on interviews and conversations with dozens of people in the field of education and educational data. The authors and organizations they represent would like to acknowledge the support and participation of the following individuals and groups who offered feedback, expertise, and insight to advance our work. We also appreciate the interaction on these topics on our blogs and various social media channels.
Keith Krueger, CoSN
ETS Staff Members
Wes Bruce, Indiana Department of Education
PARCC Staff Members
Geoffrey Fletcher & Doug Levin, SETDA
Smarter Balanced Staff Members

DISCLOSURES

Compass Learning, Curriculum Associates, Florida Virtual School and Pearson are Getting Smart Advocacy Partners. MasteryConnect is a Learn Capital portfolio company, where Tom Vander Ark is a partner. Tom is Co-Director of ASAP.
ENDNOTES

8. One of the biggest concerns about the new tests has been how to finance them. The two coalitions designing the tests won grants from the federal government to pay for the beginning of the process, but this funding won’t cover on-going expenses related to the tests, like paying people to score answer sheets and the cost of new computers and expanded bandwidth. In the conference call with reporters, the director of Smarter Balanced, Joe Willhoft, said states that have signed on for the tests have agreed to pay annual administrative fees associated with the tests. “The lion’s share of those costs is bundled up in the human scoring,” he said. http://hechinger.org/content/are-new-online-standardized-tests-revolutionary-decide-for-yourself_5655/.
11. Both PARCC and Smarter Balanced have estimated approximately $20 per pupil per year for all summative assessment components.
14. Both assessments will be given online, but Smarter Balanced will use adaptive testing. PARCC will use fixed-form tests with a set of questions that doesn’t change during the student testing experience.
22. There is also the potential for the minimums to evolve in order to serve the needs of students who will require testing accommodations, to respond to information gleaned from pilot testing, and to address security concerns that may arise.
26. PARCC Guidelines.
29. Fletcher, G. “Start Your Online Testing Engines.”