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Online Assessments, PARCC Testing, SBAC Assessment Consortium, Common Core Standards

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Transition to Online Assessments: A Personal Perspective of Meeting Common Core State Standards in an Elementary School in Georgia

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Beginning spring 2015, currently 40 out of 50 states and the District of Columbia are scheduled to assess students using online testing to assess student mastery of Common Core State Standards as part of the requirements of No Child Left Behind (NCLB). The implementation of Common Core State Standards and common assessments is a marked step in states' coming together to and agreeing that students must be able to compete in an international market and also with one another. Common Core State Standards, unveiled in Suwanee, Georgia in 2010 and initially adopted by 43 states, provide an opportunity for all students to be held to a set of common standards regardless of their geographic location. Testing has also shifted as many states that received Federally Funded Race to the Top Funding adopted Common Core and joined one of two Common Core Testing Consortia, Partnership for Assessment of Readiness for Colleges and Careers (PARCC) or Smarter Balanced Assessment Consortium (SBAC), to assess student knowledge of the Common Core. These marked changes at the state level have required changes in school testing for students. From a personal reflection perspective, the following questions were addressed: What changes are required to implement online testing in an elementary school setting? What problems were encountered during the transition? One principal shares her personal experience of implementing online testing along with the lessons learned and challenges still to be overcome in preparation for the spring 2015 implementation of online state testing.

The Partnership for Assessment of Readiness for Colleges and Careers (PARCC) and the Smarter Balanced Assessment consortium (SBAC) are both designing computer-based assessments using the Common Core State Standards (Gewertz, 2013). While high-stakes

computer-based testing has been around for more than ten years, the assessment of Common Core State Standards is moving states toward more extensive on-line testing (Schaffhauser, 2011). States are encouraged to move to the on-line testing format because of the expense and cumbersomeness of transporting paper test materials to testing sites as well as the delay in obtaining student scores. While there are benefits (e.g., increased test security) to on-line testing for state consortia members, there are also impediments, such as lack of bandwidth and adequate number of devices for implementation of the test (Schaffhauser, 2011).

Raising academic achievement levels and interest in delivering just-in-time test results were two of the major reasons that what has become known as the Common Core State Standards Initiative was funded. Through Race to the Top Federal funding, the SBAC and PARCC groups were formed, and both promised on-line assessments delivered by 2014-15. Additional promises by the consortia include quick turn-around test results and innovations in test items. While there are benefits to online testing, implementation can be challenging at the elementary school level.

The purpose of this article is to explore the perceptions and experiences of one principal's school transition to on-line testing in a high needs, urban elementary school. The authors also discuss the lessons learned and challenges still to be overcome in preparation for online testing at the elementary school level. In this study, the following questions were addressed from the principal's personal perspective: (a) What changes are required to implement online testing in an elementary school setting? (b) What problems were encountered during the transition?

Review of the Literature

Current research on computer-based testing has focused primarily on the extent to which computer-based test scores compare to the original paper-based test. This research has served to

highlight the importance of the layout of the test items, the need for a way to review and revise test responses that is easy to follow and the need for scratch space for science or mathematics problems (Russell, Goldberg & O'Connor, 2003). Early research conducted by Lee & Hopkins (1985) showed that the inability to review and revise responses during on-line assessment negatively impacted performance scores. Additional features that should be available and used during on-line assessments include the ability to skip items and return to them later as well as review and revise. These features are inherently available in pencil-paper tests and should be available for use by the students taking the on-line assessment. The students should already know how to use these features when taking an on-line assessment (Wise & Plake, 1989).

While these issues have been taken into consideration, there is still concern over the comparability between on-line assessments and pencil-paper tests (Gewertz, 2013). Most comparability research has focused primarily on adults rather than school age students. Both state consortia that are designing on-line assessments are very concerned about the comparability issue and are planning to use data collected from studies to inform the on-line assessment implementation. Several concerns must be addressed before successful implementation of on-line assessment can occur. The first concern is one of equity. Will students who live in high poverty areas score lower on the computerized assessments because of their lower technological readiness and access to computers in general? Would those same students score higher on a paper-pencil test because they are more comfortable with that particular mode of test delivery? Leaders of both consortia are optimistic that both the comparability and equity issues will be resolved prior to the release of the 2015 tests (Gerwertz, 2013).

The PARCC and SBAC organizations have a target date of 2015 for on-line assessment implementation and are now working to propose plans to help districts transition from pencil-

and-paper format to a computer format. Beginning spring 2015, currently 40 states and the District of Columbia are currently scheduled to assess students using online testing. The initial online testing is to assess student mastery of Common Core State Standards as part of the requirements of No Child Left Behind (NCLB). The implementation of Common Core State Standards and common assessments is a marked step in states' coming together and agreeing that students must be able to compete in an international market and also with one another. Common Core State Standards, unveiled in Suwanee, Georgia in 2010, initially adopted by 43 states, provide an opportunity for all students to be held to a set of common standards regardless of their geographic location. Testing has also shifted as many states who received Federal Race to the Top funding adopted Common Core and joined one of two Common Core Testing Consortia, Partnership for Assessment of Readiness for Colleges and Careers (PARCC) or Smarter Balanced Assessment Consortium (SBAC) to assess student knowledge of the Common Core (See Table 1).

Table 1

Participating PARCC & SBAC States

Partnership for Assessment of Readiness for Colleges and careers	Smarter Balanced Assessment Consortium
Arizona*	California*
Arkansas*	Connecticut*
Colorado*	Delaware*
District of Columbia*	Hawaii*
Illinois*	Idaho*
Indiana*	Iowa*
Louisiana*	Maine*
Maryland*	Michigan*
Massachusetts*	Missouri*
Mississippi*	Montana*
New Jersey*	Nevada*
New Mexico*	New Hampshire*
New York*	North Carolina*
Ohio*	North Dakota
Pennsylvania	Oregon*
Rhone Island*	Pennsylvania
Tennessee*	South Carolina*
	South Dakota*
	Vermont*
	Virgin Islands
	Washington*
	West Virginia*
	Wisconsin*
	Wyoming

* Governing States

The development of Common Core State Standards has roots in state-led educational reform grounded in the federal policy of NCLB. National standards arose as a movement by Governors and Chief State School Officers. They strove to create standards which would prepare all students for college and careers while decreasing the number of students enrolled in non-credit-bearing remedial courses at the college level (Rothman, 2012). Common Core State Standards provide all students access to the same instructional guidelines while allowing for state and local flexibility on how content and curriculum are delivered in the classroom. In a growing

global economy with disappearing geographical boundaries, Common Core State Standards help to ensure that students receive the same college-and-career-ready standards and that students are assessed on a common assessment regardless of where they live.

While the College Board SAT and the ACT tests are taken by many high school level students in preparation for college, these assessments are not mandatory and they are not tied to specific curriculum standards. The two different consortia, PARCC and SBAC, meet this need of assessing students' mastery of Common Core State Standards through different approaches.

PARCC and SBAC Assessments

PARCC summative assessments focus on student mastery of Common Core State Standards at each level through a score which combines outcomes from a Performance Based Assessment (PBA) and End of Year (EOY) assessment. Information from student scores will indicate what content students have mastered at a given grade level and identify areas of weakness which require additional instructional support. The Mathematics PBA consists of constructed response items which require students to address mathematical tasks through application of skills and reasoning, including the explanation of thinking. English Language Arts/Literacy (ELA/Literacy) PBA assessments will require students to analyze multiple texts and write effectively in response to a topic. The EOY assessments will focus on reading comprehension for ELA/Literacy and conceptual understanding for mathematics. Students will complete the PBA after they have received 75% of Common Core instruction, and they will complete the EOY after they have received at least 90% of Common Core instruction (Educational Testing Service, 2013).

The SBAC summative assessment consists of a performance task component and a computer-adaptive assessment to measure student knowledge of the Common Core. Computer

adaptive testing adjusts question difficulty throughout the test to assess student mastery of skills and knowledge. This focus on the continuum of student knowledge provides insight into the students' current knowledge regardless of grade level placement. Student's final score will be a combined outcome from the performance task and computer-adaptive assessment scores (Educational Testing Service, 2013).

While they differ in their fundamental approach to assessing student knowledge, the PARCC and SBAC assessments share commonalities (See Table 2). Both assessments are being developed in close collaboration with state-level partners. This collaboration underpins the roots of Common Core as being a state-led movement and the two assessments' reflecting the needs and agendas of state agencies. In addition, each assessment will include constructed task models and end-of-year assessments delivered through an online testing platform. While there is still more information to come from the consortia, enough information was available to encourage one principal, like many others in the nation, to begin assessing students using computerized testing to prepare for initial testing in spring 2013.

Table 2
Comparing the PARCC and SBAC Assessments

	Category	PARCC Assessment	SBAC Assessment
Differences	Purpose	Measures student mastery of CCSS at current grade level, including securely held knowledge for mathematics – Computerized Assessments	Measures students’ knowledge of CCSS on a continuum; not limited to the current grade level. Computer Adaptive Testing
	Score Components	Performance Based Assessment administered around 75% of instruction & End of Year Test around 90% of instruction	Performance Task and Computer Adaptive Assessment
	Testing Time	PBA and EOY 8 – 9.5 hours per assessment annually	Performance and CAT 7 – 8.5 hours per assessment annually
Similarities	Grade Levels	Assess student knowledge of CCSS grades 3 - 11	
	Source	Developed through collaboration and work with states, including district and school level representation opportunities from each state	
	Schedule	To be implemented spring 2015	
	Transition	Provide paper-and-pencil versions of the assessment during first transitional years	
	Funding	Received funding through Race To The Top Federal Grant	
	Retake Opportunities	Retake opportunities will be provided	
	Interim Assessment	Both assessments include optional interim assessments	

Both consortia have released guidelines to inform school and district level decisions about needed infrastructure upgrades and device requirements. PARCC released a publication which included a “Rule of Thumb” suggesting that schools have, at a minimum, one device for every two students at the largest tested grade level with a preference for one-to-one device-to-student ratio for the largest tested grade level (PARCC, 2013). Current information related to

online testing specifications and requirements can be found on the website for each consortium. In addition to device requirements, school and districts must also assess their bandwidth to ensure that there is the capacity of the school to assess students. Hardware and infrastructure upgrades and purchases will need to be assessed at the school level. Table 3 provides an overview of the technology guidelines for both PARCC and SBAC.

Table 3

Overview of PARCC and SBAC Technology Guidelines

Detail	PARCC	SBAC
Supported Hardware	Desktop, laptop, netbooks, think client, and tablets that meet the hardware, operating system and networking specifications	Desktop, laptop, tablets (including iPads, Android-based tablets, Windows-based tablets, and Chromebooks)
Screen size	9.5 inches or larger	9.5 inches or larger
Internet Browser		Internet Explorer, Firefox, Safari, Google Chrome, Navigator. SBAC released secure browser for student testing
Bandwidth	10,000 Kbps per 100 students	1Mbps per 100 students
Source	PARCC (2013)	SBAC (2013)
Additional Requirements	External Mechanical keyboard and headphones	External Mechanical keyboard and headphones

Principal's Perspective: Lessons Learned from Online Assessment Implementation

One principal (third author) working in a high needs urban public elementary school sought to document the benefits and challenges of implementing on-line testing in an elementary school setting. The elementary school opened in 1996 using a theme-school focus. Students are

actively involved in research-centered assignments in a highly structured interdisciplinary educational program. It is within this context that the pilot on-line testing implementation took place.

The principal of the high needs school was committed to meeting the school district challenge of testing elementary students on-line for a district benchmark assessment. This meant successfully moving students from pencil-and-paper format to the online format in order for the change in test-taking methods to be effective. The implementation of the online format provided many benefits and challenges for both the students, teachers and administrators.

According to Fletcher (2011), few schools transitioning to online testing will do it effectively the first time; however, from my perspective as a current principal, experiences have proven that with proper inventory of technology and proper preparation and planning, the transition to online assessments can be effective. Meeting the challenge of testing elementary students online is a priority for the school district this school year. This requires extensive preparation and planning by the administration. The initial goal, determined by the school district, was to implement online tests of district benchmark assessments in multiple content areas to students in grades kindergarten through fifth. In a perfect world, test results are indifferent and should not change no matter what type of test is given – be it via paper-and-pencil or online format (Gewertz, 2013). However, being in a high-needs, urban elementary school where there has been little practice with online test taking, I had a genuine concern that student test results might be lower because of online test taking inexperience. Gaining computer experience in online test taking proved to be one of the greatest challenges.

In an effort to provide online testing experience for the students, school staff administered three benchmark tests over the course of 9 months. During the initial

implementation of the tests when students were first introduced to the online testing format, they were encouraged to read the instructions on the screen carefully and remain cognizant of the time as they were answering questions. While these instructions proved useful for the older students, kindergarten and first graders generally had a difficult time with them.

The mechanisms or the “how to get around” while using the online testing software by the students was a challenge. Students were given instructions by the classroom teacher on how to change and review answers once the test was nearing completion. This process was demonstrated by the teachers, and the students were given time to practice the process. Students were also made aware that they would be alerted should a question not be answered, giving them the opportunity to return to that question and answer it.

After the initial online benchmark testing experience, the administration and teachers realized that the challenges and logistics of the implementation of online testing for elementary students were a significant undertaking; however, preparing administrators, students and teachers remained a priority.

Inventory

Before beginning online assessments, we completed an accurate inventory of technology available for effective and efficient testing, as recommended by Fletcher (2011). The priority for the 2013-2014 school year was placed on wireless capability and availability of computers or laptops. The technological assessment process included the media specialist, technology support specialist, testing coordinator, and principal, all working collaboratively to determine the number of functioning devices in the school. It also included testing the wireless signal throughout the building. The complete inventory of technology available consisted of one computer lab, which can test 35 students, and one modular cart with 35 laptops. The majority of devices were in

working order and inoperable devices were repaired with support of a district-level technician. The limited number of devices available for testing was the first sign that scheduling and implementation were going to be challenging.

Scheduling Process

An advantage of paper-and-pencil tests is that all classes in the school can take them at the same time. With just 70 computer devices, simultaneous testing was not an option. Most teachers agree that giving high stakes tests the first thing in the morning when students are rested provides the best opportunity for positive student results. Consequently, an initial issue was how to schedule student testing in a way that allowed all students to complete the online testing within the district-mandated test administration window (10 school days). When scheduling testing, we considered the number of students, grade levels, available locations, accessible technology, testing window, and allotted time for test administration (1 hour) and transitioning. The school population consisted of 820 students in grades K-5 who were divided into 32 homerooms of 23-32 students each.

There were adequate devices to allow for two classes or up to 70 students to test simultaneously in two different locations. One class completed testing in the computer lab while a second class tested in their classroom using the laptops from the modular cart. Because the maximum class size in the building was 32 students and each testing area had adequate devices for 35 students, there were additional laptops and computers available in the event there were any technical difficulties. We recognized that environmental issues might interfere with results of the testing, as students might feel more comfortable and confident taking the online test in their usual classroom compared to students who are taking the test in the computer lab.

The developed and implemented schedule allowed for all students to complete testing within 6 days of the 10 day testing window when 3 testing sessions were provided each day. The remaining 4 days were used for make-up and small group testing. Planning for small group testing ensured compliance with the accommodations required for students that had an Individualized Education, English Language Learners, or 504 plan. Having 4 unused days enabled the teachers to follow standard testing procedures as it pertained to accommodations. The online test schedule required flexibility on the part of the teachers as testing times occurred throughout the day.

Monitoring and Test Security

The expectation was that all online assessments would be administered with the same level of security as other standardized tests. In compliance with this expectation, each testing session included both a proctor and test examiner to assist with monitoring, transitions, and technical problems. Therefore, all regulations and procedures were followed without variance.

All test examiners and proctors received training at a minimum of 3 days prior to the opening of the assessment window. This training included a presentation of the test constructs, expectations, instructions, building schedule, and security procedures. It was necessary to have a security plan to prevent irregularities or invalidations and ensure that the online assessment was administered fairly and ethically. This plan emphasized the importance of following testing administration procedures and reporting any concerns immediately.

Challenges

Hardware and Software

The first significant challenge to emerge was the process of testing implementation. During the nine months of benchmark testing online, we identified many challenges. Although

online district benchmark testing was administered three times during the school year, mastering the logistics of test implementation did not occur until the third administration. It took training, collaboration, and coordination on the part of the principal and teachers to begin implementing the on-line testing process with ease.

The second challenge to emerge was around technology. We encountered fundamental issues with the hardware and software. Inoperable equipment required the need for additional devices when completing online assessments by a class. In order to minimize a lapse in time for the student using a defective device, additional devices were made readily available. Other technical issues proved challenging, such as issues with logins and the slow loading of test questions, which interferes with and decreases the testing time available for students. Having adequate bandwidth so that tests load properly continues to be an issue. Additionally, issues with logins and slow load time can potentially interfere with student engagement, potentially resulting in lower test scores.

Computer Inexperience

Online testing for inexperienced students can also create less than favorable results. During the first administration of the online district benchmark assessment, students' scores were negatively skewed. Students had not previously completed online testing; therefore, the lack of experience with online testing and the testing platform may have affected students' abilities while completing the assessment. During the initial implementation, many students responded as though the online assessment was an educational activity and did not take the test seriously. However, by the third implementation of the benchmark assessment, students had fewer problems and scores began to stabilize.

Recommendations – Meeting the Challenges

Based on the experience of transitioning from paper-and-pencil to online testing, we provide the following recommendations:

1. Perform a technology survey. Find out how many computers are available and identify those that need service.
2. Determine the amount of bandwidth available for testing. Lack of bandwidth can be an even greater problem than too few computers. Lack of bandwidth is the primary reason most schools continue to use paper-and-pencil tests (Schaffhauser, 2011).
3. Purchase additional devices. It is important to secure more devices for the building that can be carted to different classrooms for online assessments.
4. Work collaboratively with teachers to schedule testing during the test window. While there are many considerations, having teacher support for the implementation will ensure that the online test administration runs smoothly. Collaborative scheduling also provides contextual information to the teachers, particularly when all classes cannot test first thing in the morning.
5. Implement online pretesting activities so that students can become familiar with the online testing format. Practice helped to improve student focus and active engagement with the program. Parents were also encouraged to allow students to practice at home using teacher created online tests.

The current plan for the school is to move from two classroom blocks of testing with 35 students in each block to four classroom blocks. This change will require the purchase of 70 additional computers, essentially doubling the testing capacity. However, with the addition of devices will come additional stress on the wireless capabilities of the building. The school will

require support from the district to ensure that the needed infrastructure is in place with adequate bandwidth to support simultaneous online testing of 70 additional students.

While the expectation is to move all testing to the online format, our experience in this school has shown us that this transition is fraught with many challenges, from building infrastructure to student experience. Overcoming the identified challenges will require significant financial investment and implementation of student online test taking practices. Though the commitment to administer online assessments presents many different types of challenges, many lessons were learned during the first year of benchmark online testing at this high-needs, urban elementary school, lessons that can help both teachers and students become better prepared for the administration of online assessments.

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