

Are Our Kids Ready for Computerized Tests?

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To show what they know on computerized assessments, even digital natives may need help manipulating the technology.

Recently, my 21-year-old son faced a real-life task that made me think about the assessments connected to the Common Core standards that U.S. students will soon complete in elementary, middle, and high school. I had accompanied Nickolas to the airport to catch his flight for a semester abroad. At the ticket counter, the attendant told Nick, "Your flight to London has been cancelled. After getting through security, you can try to bump yourself onto a flight to get over to Europe, and then connect to a boat, train, or bus to get the rest of the way."

"What!" The mom in me exclaimed. Nick, however, had a huge grin on his face at the excitement of this unforeseen journey. He hugged me and said, "Mom, I'll call you when I get to the university." I stood there stunned, struggling to think of the steps to take in creating a new plan. But Nick was already walking toward the gate. He was up to the challenge of finding his destination. When Nick turned to wave, I had to smile: His shirt said, "Not all who wander are lost."

Needed: Knowledge, Synthesis, and Tech Skills

To get himself to London, Nick needed basic knowledge about airports, air and train travel, and the locations of European cities. He also needed to interpret and synthesize disparate bits of information and choose the best of several options—quickly. Students facing the performance tasks and questions being created by the consortia connected to the Common Core standards, Smarter Balanced and the Partnership for Assessment of Readiness for College and Career (PARCC), will also need to retrieve knowledge and synthesize it under pressure. Imagine how much harder Nick's task would have been if he had scant experience using the technology involved in modern travel, such as flight monitors, electronic check-in kiosks, or even escalators.

Inexperience with technology might frustrate many students taking the computerized Common Core assessments. As I recently realized after debriefing with hundreds of students who had participated in pilots of computerized assessment items, even many digital natives aren't versed in the skills needed to take online tests, such as moving a cursor, dragging text, or even keyboarding.

As teachers face the reality that students will need to demonstrate mastery of Common Core-aligned content and skills through computerized tests as early as fall 2014, we may feel stunned—just as I did when Nick's flight was cancelled. Although we've lived through many changes in curriculum and the tools used to facilitate learning, and we've often repeated, "This too will pass," this time feels different. Something is really changing.

So let's consider what that change means and how to get kids ready for the technical skills involved with these new assessments, using insights from those who've actually tried them.

In spring 2013, Michigan piloted some of the online assessment items from Smarter Balanced. As an education consultant, I support teachers and students in preparing for this new testing genre. I reasoned that the firsthand perspectives of students and educators who participated in the pilot would help me see what each group needs, so I arranged debriefing sessions in schools. I talked with more than 500 students who had just taken the pilot items—and with teachers who'd just administered them.¹ Responding to a set of prepared questions, participants in grades 3, 6, 7, and 11 shared their take on the technology skills students will need to successfully demonstrate learning in this new format.

3rd Graders: "The Bubble in the Straw"

These post-pilot debriefing sessions revealed many technology skills that younger students, especially, will need to build before they can demonstrate proficiency through computerized tests. One debrief began with the question,

"Suppose a student has never taken an online test: What computer skills would be important for that student to have before taking this test?"


Hands quickly shot up. Nine-year-old Ethan said, "The bubble in the straw was really important to learn about; my fingers wouldn't work." Looking around the room, I saw his classmates nodding their heads in agreement.

Puzzled, I asked, "What exactly did this bubble do?"

With much animation, Ethan pointed up, down, and side-to-side, "There are straws with a bubble on the side, on the bottom, and sometimes in the middle. You can move them this way and that. I had to use the arrow to move the bubble."

It became clear that these 3rd graders, many of whom were well versed in touchscreen devices, had just realized that putting a finger on the computer screen couldn't get the words to move. "Oh," I exclaimed, awareness dawning, "that's called a scroll bar, and, yes it's very important."

Brittney chimed in with an additional suggestion for needed learning: "The blinky line has to be in the box where you want your words to go. ... You can press the letters all you want, but nothing happens if the blinky line isn't in the box!" A show of hands revealed that more than half of these 3rd graders had struggled with how to use the cursor. This exchange was a reminder that, even for tech-savvy students, a high level of competency on one device doesn't always transfer to another device or task. Using technology for demonstrating content knowledge is different from using it for entertainment.

 Computerized and online assessments, educators are discovering, will require kids to have certain digital skills: using a mouse, highlighting text, dropping and dragging text, drawing lines and creating graphs on a screen, operating an online calculator, using scroll bars (the "bubble in the straw"), and keyboarding, to name a few. If we want an online assessment to capture a student's level of learning, rather than that student's ability to navigate technology, teachers must integrate these skills into their instruction, giving students practice before administering high-stakes exams on a computer.

Secondary Students: "Mighty Confusing"

I began my conversations with secondary students by asking, "When it comes to using technology, is there anything your teachers should know that would help other students be successful on this test?"

There was a consensus that negotiating the large amount of text and questions on the screen was a challenge, especially on small screens. Janal shared that several multistep problems went on and on and combined stuff from all sorts of classes. ... it was mighty confusing at first. ... We had this split screen. I was scrolling on the left to look at information, then over to the screen on the right, scrolling to answer the questions ... back and forth, back and forth.

Students who had increased the font size (an accommodation option) found that this intensified the amount of scroll bar usage. Some realized—after the fact, unfortunately—that they needed to use the scroll bar on each question to check whether there was information beyond that shown on the initial screen.

Previewing the test format and directions regarding answer selection for each section would help test takers. Some students, relying on past experiences with standardized assessments in which each question had only one correct response, missed directions that changed this expectation. Ben, who hadn't read the directions carefully, shared, "It was confusing that the computer let you click on more than one answer. You had to be careful to unclick when you changed your mind or you could put in two or three answers to one question." "You have to pay attention," Kyle warned. "Many questions had more than one right answer. It was different from other tests where you search for the right answer and move on to the next question."

Students at all grade levels disclosed frustration with responses that required extended keyboarding skills. "There was more I could have said," Jacob noted. "There was plenty of time, and the box wasn't full. I just didn't want to type anymore." Many students reported choosing to shorten responses on constructed-response items because they lacked fluency with the keyboard.

Overall, however, students commented positively on computerized assessment, saying things like, "So much better than a paper test" and "I liked all the different questions; it wasn't the same boring thing over and over again."

Insights from Educators

Debriefing with teachers brought forth different perspectives. The self-sufficiency these items required was a main theme. One teacher reflected,

When it comes to the performance tasks, my apprehension isn't the rigor of the content; it's the independence and perseverance students need. I teach in chunks, with lots of feedback and support. These assessments expect kids to be very self-directed with large pieces of content and many complex tasks. ... I'm not sure they're ready.


Teachers also expressed concern about the length of items and kids' lack of keyboarding skills. They imagined the awkwardness test takers might feel using a new or different computer. Keys and spacing often feel different from one device to the next, and upgrading to a new device or operating system can be frustrating.

When I talked with educators at the district level, I found that logistics were a challenge for some. A few pilot sites reported difficulty obtaining enough devices to give the assessments or having to take over computer labs (and interrupt their use for instruction). Others had problems with the amount of bandwidth needed. Many thought they had sufficient Internet capacity—until 120 students logged on to take the assessment at once.

How to Get Students There

The new online assessments will challenge educators to ensure that students not only have learned certain things, but also can demonstrate their knowledge using technology and apply their learning to a variety of tasks—all without the direction of the teacher.

So, how do we get there? Here are five suggestions:

1. *Enhance digital skills.* Integrate technology into instruction to help strengthen students' computer skills and transfer those skills to academic tasks. For instance, you might teach students to summarize something they're reading by creating a word cloud (using www.wordle.net or www.tagul.com); or as they discuss common texts, have students share their comments and links to further content in a protected online space (like www.voicethread.com); or assign your kids to create a class website.
2. *Assign cross-curriculum tasks.* Create projects that connect multiple subjects so students get accustomed to using their knowledge flexibly across disciplines.
3. *Promote self-sufficiency.* Assign multidimensional tasks that scaffold a student's ability to persevere over an extended period while demonstrating learning independently. Teachers often require students to research a topic, write a report, and then present their findings. When I taught, I would break such a report into many steps and check students' work as many as 10 times along the way: several checks during the research process, a few more as learners create an outline, and a check after each of three drafts. All this support was great, but an educator giving a similar assignment now should have students complete bigger chunks of work before checking in and giving support—doing only five or so check-ins for the project and decreasing this to two or three for subsequent projects, working toward as much independent work as possible. 
4. *Provide practice and try out your technology.* Give students opportunities to build a level of comfort with the actual keyboards, screens, external mouse or touch pads, and so on that they'll use during the assessment. Seek out opportunities to pilot upcoming web-based assessments from the Common Core consortia, or have all students take a different online test simultaneously to determine, firsthand, your system's capacity, strengths, and challenges.
5. *Debrief.* After piloting assessment items, hold dialogues like those described here to capture test takers' thoughts and recommendations for the skills and support students will need.

As the Common Core assessments approach, let's challenge ourselves to provide opportunities for students to independently apply the knowledge they'll need to meet the new standards—and indeed, to succeed in life. If students can't demonstrate mastery of content independently, what have they really learned?



Debrief Questions

Suppose a student has never taken an online test. What computer skills would be important for that student to have before taking this test?

When it comes to using technology, is there anything your teachers should know that would help other students be successful on this test?

What types of assignments or activities for which you used technology helped the most when taking this test?

What did you like about this test?

Endnote

¹ The schools connected to a secure browser for students to take the online items. The Bureau of Assessment and Accountability within the Michigan Department of Education supported this student-voice, post-pilot debriefing project.