

CASE IN POINT: BRIDGING TECHNOLOGY & ASSESSMENT IN NORTH CAROLINA

The North Carolina Department of Public Instruction (NCDPI) began conducting online tests in 2004–2005 to assess achievement in the computer skills curriculum. End-of-course exams followed, beginning in 2006–2007 with Physics. Currently, the state is field-testing online tests for the North Carolina Essential Standards and the Common Core State Standards, with the goal of conducting all state assessments online by the 2014–2015 school year.

Here, representatives from a cross-section of the North Carolina student assessment program discuss the state's transition to online testing: Jim Kroening, Lead Testing/Accountability Consultant, NCDPI; Randy Craven, IT Director at NC State-TOPS; Kayla Siler, Policy and Strategic Planning, NCDPI; and Nadine McBride, Psychometrician, NCDPI.

Utilizing studies and surveys

Kayla Siler: We surveyed our LEAs and charter schools about their readiness to transition to online assessments. The survey focused on readiness in terms of hardware, connectivity, and personnel. The survey questions included questions about number of devices, devices for student use, mobile devices or labs, wireless connectivity, bandwidth, and personnel available at the school or district level to assist with technology issues.

We had pretty good response rate, and completed our first online readiness report in May 2010. And then, the addendum that came out earlier this year (February 2011) included some additional responses that were received over the summer and into the fall of last year.

As part of a separate effort, we also interviewed about 20 LEAs or charter schools in face-to-face interviews about the actual use of online assessment in their schools.

Nadine McBride: A couple of years ago, when we were just beginning to consider moving the modified alternate assessments online, we conducted an online feasibility study. And we learned a lot from it. This year, we conducted an online item tryout of the entire population assessed on the modified alternate assessment. With it we conducted a student survey in order to get student input. We'll be analyzing that data over the next week or two. We expect to learn a lot from that as well and to use the result to assess if we need make any kind of adjustments.

We're also looking at conducting some special studies of the technology-enhanced items, of [doing] an in-depth usability study of those technology-enhanced items with the younger kids, just to make sure they're interacting with the items in the way that we expect them too.



From left to right: Jim Kroening, Lead Testing/Accountability Consultant, NCDPI; Kayla Siler, Policy and Strategic Planning, NCDPI; Nadine McBride, Psychometrician, NCDPI; Randy Craven, IT Director at NC State-TOPS

Jim Kroening: We also conducted a test administrator survey following this year's item tryout. Some of the questions were very similar to what we asked the students. We are going to be looking at the perceptions of test administrators, versus what the thoughts of the students actually were. The data should be interesting because those two things at times can be very different.

Kayla Siler: We're going to do an annual update at the beginning of the school year, to let the NC State Board of Education know where we are, on track or not, with meeting online readiness goals. This fall our update will say, here's an update of what happened in the '10-'11 school year, and here's what you should expect for next school year, and the next school year, as we're looking towards our goal of being all online by '14-'15.

Meeting testing load demands

Randy Craven: When we started development of our first online assessment, the online test of computer skills, our biggest concern was being able to spread the load, both locally and on the hosted side, across a wide window, so that testing would not be attempted on the same day with 100,000 students, all starting at 7:30 a.m. on the same morning.

Policy was established to open up the testing window to be basically all semester long, both fall and spring semesters. Local districts had to schedule their sessions based on [a] centralized management tool that we provided which kept the number of concurrent testers to a set maximum for valid testing times. Load management was critical to the success of the project. With the cumulative or spiraled design of the curriculum for computer skills, it made sense that students shouldn't have to wait until the end of a semester or a year, to take the assessment.

That's in stark contrast to what folks want to do for an end of year or an end of course sequence. They don't want to test before the end of the series, and don't want to test too many days after the end of the series. So, there's a very limited range on what folks really want to do for most online assessments. They would like to test a million students on one day in North Carolina. And that puts a big burden on trying to design a system that can accommodate that.

Jim Kroening: It is going to be difficult to promote expanded testing windows and more flexibility to our school clients. When dealing with end-of-course tests or other types of summative tests, folks don't want to test students early in the window because they want to get as much instructional time in as possible.

Adjusting strategy with growth

Jim Kroening: We are more aware of the importance of marketing and promoting online testing now than we were in 2004-2005. In some ways, I believe we really haven't evolved as fast as we should have into an online environment for both instruction and assessment.

Promoting the benefits of online testing cannot be understated. Our online testing interface is user-friendly making the tests as accessible as possible for as many students as is possible. For example, read-aloud accommodations

require special settings, test administrators, and proctors. If students who need this accommodation test online with headphones, a lot of staffing issues that occur at local schools during testing times would be alleviated.

Kayla Siler: We found that the planning side is what people often overlooked. They thought, we'll just do it online. We can do that anytime. They didn't think about, [how] that means [they] actually have to have 30 laptops in the room, so that all these students can take a test on this day at this time that we signed up for. And they all have to be connected to the Internet, and they all have to have power, and they all have these needs. They didn't take the planning time to say, okay, this many kids in this course are taking this test, on this day, at this time, in these places. That's where they ran into problems that made them not want to do online assessment again.

Other LEAs took the time to plan and now they're really building on a system. Some of our districts with the most success took a couple of years to see what it would look like, tried one class, tried one course, and built up to the point where, now, it's very easy for them to administer the assessments online. Scheduling is no problem. They go in early and get all the spots they need to register for the test. They have all their students registered. And they're testing 60 or 80 percent of their population

online with no trouble. Now it's just getting everyone to take that approach or to at least give online assessments a try, rather than stick with the old, and what they know, and what they're comfortable with.

Nadine McBride: We're trying to promote the fact that the online assessment has more capability to have built-in accommodations. For example, it will make read-alouds a lot easier for the schools. We're really trying to promote that accessibility and not just for the modified population, but also for the grade five and eight science students. We are also promoting the interactivity of the technology-enhanced items that we can have with online assessment that they'll be more interesting and engaging to the younger students.

Randy Craven: On the technology side, we are making some architectural adjustments, and have plans to try to offload some of the delivery mechanisms to other systems, so that the data collection side can catch responses securely. And we're trying to figure out ways to alter our architecture, so that we can increase our performance about tenfold [in order] to have the capacity to test close to a million students in a day.

Lessons learned

Kayla Siler: What we learned from talking with our districts about some of the keys [to successful online testing was that] the number one for most of them was the collaboration between testing personnel and technology personnel. And so, I think, at the school level, at the district level, and even at the state level, that that is an important piece, that you have both teams working together to make it successful, that you know who to contact when there's a problem, that you know who's responsible for what, and that you work around scheduling together. So if you're sharing computers across schools, or across classrooms, you know when you can have them where, and how to set them up, and who's responsible for what.

After that, I think it was communications, not only between those groups, but [also] with the teachers in the school. [It was important to make] sure that the teachers were aware of what their options were, that they had the training that they needed to be able to administer the test online or paper/pencil, and [that] everyone in the school knows what time the testing is happening, where it's taking place, and where the students are supposed to be, so you get people in the right places.

I do think that when superintendents and other district leadership were supportive, that made a difference, because then the staff felt that they were accountable to do what the superintendent was asking. If [the leadership] weren't pushing [online testing], there was less accountability, or less incentive to make that change.

Resources and final words

Kayla Siler: On our NC Public Schools website (<http://www.ncpublicschools.org>), we do have a space where we've tried to post resources [for online testing]. Some of that has been just looking for education-related articles about the use of technology in the classroom for assessing, for different things, about formative and benchmark assessments, about the different types. We also reference other states that have online systems and maybe have FAQs or different documents that could be applied anywhere.

Randy Craven: I have always felt that it is very important to have a technical staff that is aware of accountability issues and processes, not just a relationship with IT support that is just about technology.

Jim Kroening: It is important to consider where the vision comes from and who promotes the vision. During the early years when we developed the online test of computer skills, the test development staff promoted the initiative. It quickly became a State Board of Education initiative and a graduation requirement. Today, the vision originates from the leadership as part of the Accountability and Curriculum Reform Effort (ACRE) and Race to the Top (RtT) programs. Since online learning and testing is a statewide initiative, it can be more effectively promoted and supported by our school clients.