The 2015-16 school year marks the first time that the majority of state mandated summative testing in U.S. elementary and middle schools will be administered via technology and not in a paper and pencil format. Which states are leading the way? Which testing vendors are keeping up? What are the key trends to watch?
Pencils Down: The Shift to Online & Computer-Based Testing

U.S. K-8 Market: 2015-16 School Year

WHY ONLINE TESTING?

For well over a decade, U.S. states have increasingly relied on the use of technology to administer and score mandated summative (end-of-year) student assessments. While the adoption of the Common Core State Standards and associated tests (PARCC and Smarter Balanced) accelerated the shift to online testing, the college- and career-ready standards movement itself is neither the root cause of the shift, nor even the dominant driver as of the 2015-16 school year. Rather, as compared to paper-and-pencil testing, online and computer-based testing offers a number of compelling advantages, including:

- Enhanced opportunities to more effectively assess student understanding and performance;
- Enhanced accessibility for students with special needs;
- A more efficient method of test delivery and dramatically faster turnaround of scores;
- An improved security model; and,
- Increased student motivation and engagement.

This EdTech Strategies, LLC research brief provides select insights into the U.S. K-8 assessment landscape for the 2015-16 school year. Based on a comprehensive review of publicly available data from states and testing vendors, the brief is focused exclusively on state-mandated summative assessments of the general student population. Across the 50 states and the District of Columbia, this represents a universe of over 800 distinct (subject/grade) tests to be administered to roughly 20 million students in grades 3-8. Most grade 3-8 students will take between 2 and 4 state-mandated summative tests each year, including in English language arts and mathematics.

THE MAJORITY OF GRADE 3-8 STUDENTS WILL TEST ONLINE IN SPRING 2016

The 2015-16 school year marks the first time that the majority of state-mandated end-of-year summative tests students will take will be via computer administration and not via paper-and-pencil format. In fact, only 15 percent of the over 800 tests being offered to grade 3-8 students this year will only be available in a paper-and-pencil format.

- While older students are slightly more likely to have the option to test online, large numbers of 3rd graders (aged 8 and 9 years old) are already testing online successfully.
- Of all subjects, tests in science are most likely of all subjects to be tested in a paper-and-pencil format for the 2015-16 school year.

1 No state has announced plans to require a summative end-of-year assessment of students in grades K-2 for the 2015-16 school year.
THE U.S. K-8 ASSESSMENT MARKET IS DOMINATED BY FOUR TEST VENDORS

The top four test vendors (as measured by the number of general assessments they will deliver to grade 3-8 students during the 2015-16 school year) include:

- American Institutes for Research (AIR)
- Educational Testing Service (ETS)
- Data Recognition Corporation (DRC)²
- Pearson

Together, these four vendors will deliver three-quarters of all elementary and middle school state-mandated summative tests in 2015-16, including the vast majority of administrations of tests produced by the PARCC and Smarter Balanced assessment consortia.

² In June 2015, DRC announced the acquisition of key assets of the CTB Assessment Business of McGraw-Hill Education.
THREE ISSUES TO WATCH FOR 2015-16

Last spring provided no shortage of drama for observers of the large-scale assessment field. This year, anticipate these three issues – among others – to take center stage:

1. **There are a significant number of states at risk of a major technology-related test administration challenge.**

   During the 2014-15 school year, 7 states experienced significant technology-related test administration failures, which resulted in fines being levied against 4 test vendors (totaling over $10 million in value). In every case, vendors experiencing challenges were delivering a new online test for the state in question or significant new online test functionality.

   More than 10 states are working with new vendors this coming year to deliver new online tests – and many of these are with test vendors other than the big four. This places these states at special risk of a technology-related test administration issue.

2. **Expect issues related to online test security to increasingly vex states, test vendors, and school districts.**

   Last year, two states experienced significant statewide disruptions of testing due to repeated DDoS (distributed denial of service) attacks on their vendor’s test administration servers by unidentified parties. Moreover, there were reports of school districts from coast to coast also being targeted during test administration windows.

   “There were in excess of 29,000 IP addresses used to launch the numerous DDoS attacks orchestrated against DOE’s contractor. The IP addresses/computers were part of a large Bot Network….Based on intelligence information relating to previously discovered Bot Networks, the resources used to direct all of these computers in a malicious fashion were more than likely based outside of the United States.”
   - State Department of Law Enforcement Investigative Report (7/20/15)

   Given the charged environment surrounding testing, it is reasonable to expect that every node in the online test administration network could be a target for those interested in causing mischief (whether initiated external to school systems or internally).

3. **As online testing becomes the norm, issues of equity of access and opportunity to learn must come to the fore.**

   The equity concern speaks to two related issues: (1) the unethically long testing windows supported by state departments of education, which – in some states – allow school districts to administer end-of-year summative tests to students several months before the end of the school year, and (2) the uneven access of students to high-quality, subject-specific instruction in modes related to how students are tested (i.e., for online testing, with teachers who have the support to effectively integrate technology into their academic lessons). Research from the 2011 NAEP Writing assessment clearly underscores the impact of the opportunity to learn with technology: students who have access to teachers who use technology in their academic lessons, perform systematically better on online tests than students.
without that opportunity. Access to technology by students (whether in or out of school) is not in and of itself sufficient.\(^3\) Both of these issues speak to the need for sufficient resources to plan for and deploy technology to be used not just for testing, but also for day-to-day instruction with all students.

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EdTech Strategies, LLC, is a boutique consultancy focused on providing strategic research and counsel on issues at the intersection of K-12 education, public policy, technology, and innovation. Clients include non-profit research and advocacy organizations, cultural institutions, associations, education and technology companies, and philanthropy and government leaders.

Additional findings and custom research on state testing plans for the 2015-16 school year are available. Topics include, but are not limited to:

- The number and mode of delivery of mandated summative tests of the general student population by state, subject, grade, and assessment vendor;
- Estimates of the market share of assessment vendors (by numbers of tests to be delivered) by state, subject, grade, and mode of delivery of tests;
- Announced online testing windows (if applicable) by subject/grade test in each of the states;
- Which states and vendors are slated to administer new tests for the 2015-16 school year;
- Participation in one of the Common Core Assessment Consortia by state and vendor; and,
- Insights into assessment vendor technology issues experienced during the 2014-15 (prior) school year.

For more information about this research brief or our services, please visit [www.edtechstrategies.com](http://www.edtechstrategies.com) or contact:

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