

## **Briefing on Online Testing**

Texas Education Agency  
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The Texas Education Agency (TEA) is in the midst of transitioning its assessment programs to an online testing environment. Over the next four years, Texas Assessment of Knowledge and Skills (TAKS) tests will be made available in an online format in all grades and subjects, including Spanish versions. In addition, new End-of-Course examinations will be implemented exclusively online, parts of the Texas English Language Proficiency Assessment System (TELPAS) will transition to online testing, and TAKS-Alternative (TAKS-Alt) – the state assessment designed for students with significant cognitive disabilities– will be supported by an online assessment tool. During this period, TEA is also implementing a number of projects that utilize online technology, including an online reporting tool, special education training modules, rater qualification and training modules for the Texas Observation Protocols (TOP), and online study guides.

The purpose of this briefing paper is to provide an update on the current status of online testing and to summarize planned schedules for introducing online assessments and projects as part of the Texas statewide assessments. In addition, this paper discusses several considerations that will deserve increased attention during the transition of Texas statewide assessments to online testing

### **Online Testing in Texas through 2005-2006**

The earliest initiative related to online testing as part of the state's comprehensive assessment program was a study of grade 8 students' computer literacy in 1994. This study surveyed general computer literacy using spreadsheets, databases, and word processing programs. The first online assessment offered in Texas was the Algebra I End-of-Course exam, implemented in 2002. The Algebra I End-of-Course test was ideal for online administration because it was not a high stakes program, the online administration was voluntary, and the test items were easily adapted to a computer-based administration format.

In spring 2004, a grade 8 pilot study was conducted with the TAKS Reading, Mathematics, and Social Studies tests. Results of a post-test survey indicated generally positive reactions from districts and students to their online testing experiences. Several issues related to the online pilot administration were also raised, including shortages in computers for online testing, concerns about maintaining test security when computer labs were used to administer the tests, and concerns about accommodating special needs students with online testing.

In spring 2005, grade 8 students took operational TAKS tests online for the first time in Reading, Mathematics, and Social Studies. These administrations included studies to assess the comparability of student performance in the online and paper-and-pencil testing modes. In addition, a portion of the field-test for the new grade 8 Science test was administered online. Surveys administered as part of the online administrations confirmed the positive reaction of students and district testing coordinators to online testing.

Several additional online testing applications were also carried out in 2005. Beginning in spring 2005, a new edition of the voluntary Algebra I End-of-Course test was introduced exclusively in an online format. In June 2005, a special retest administration of the Exit Level TAKS was offered in both online and paper-and-pencil formats, so that an additional study comparing online and paper-and-pencil test performance could be completed. In December 2005, an additional retest opportunity for Exit Level TAKS Mathematics, Science, and Social Studies tests were offered exclusively online.

In spring 2006, the number of online testing initiatives within the Texas assessment program continued to increase. Online administrations were offered for TAKS tests at grades 8 and 9. These online administrations included studies of mode comparability. In addition, a study of online testing for grade 2 students taking the Reading Proficiency Tests in English II (RPTE II) was conducted. Finally, students taking retest administrations of the Exit Level TAKS in July 2006 were offered the option of testing online or by paper-and-pencil tests in all subjects.

### **Schedule for Online Administrations between 2006-2007 and 2009-2010**

The schedule for online administrations of Texas assessments systematically increases online offerings from 2007 to 2010. In fall 2006, students retaking the October Exit Level TAKS will be offered a choice of testing online or by paper-and-pencil format. A research study comparing online and paper-and-pencil administrations of TAKS English language arts (ELA) will also be conducted in fall 2006. This study will explore variations in the online interface used in responding to extended constructed response writing prompts (i.e., the essays). Exit Level retest administrations will continue to be offered in online and paper-and-pencil modes from 2007 to 2010, both in July and October. Additional special studies related to online testing will be carried out as needed in the fall of 2007, 2008, and 2009.

In spring 2007, optional online versions of TAKS tests will be offered at grades 7 through 10. In spring 2008, online versions will include TAKS grades 5 and 6 in both English and Spanish. Online tests (in English and Spanish) will be added for TAKS grade 3 in spring 2009 and for TAKS grade 4 in spring 2010, at which time all TAKS tests will be available in an online format.

Several other Texas testing programs will also utilize online technology. For example, current plans are to administer the End-of-Course examination program exclusively online. In spring 2007, online field-tests will be administered for newly developed End-of-Course tests in Biology and Geometry. In 2008, new field-tests for Physics, Chemistry, and U.S. History will be administered online along with operational tests for Algebra I, Biology, and Geometry. By spring 2009, all six end-of-course tests will be administered exclusively online.

The Texas English Language Proficiency Assessment System (TELPAS) will also utilize online testing. Specifically, online field-tests of the RPTE II will be administered online in grades 2 through 12 in spring 2007. In spring 2008, a special RPTE II comparability study will be conducted, and operational RPTE II tests will be offered exclusively online beginning in spring 2009.

The TAKS-Alt assessments will include a statewide field-test in spring 2007 that will be conducted using an online interface for each grade and subject. The online interface will provide the structure for teachers to collect and submit evidence on the instructional activities that are required of the operational assessment. Beginning in spring 2008, the online testing interface will provide the basis for operational TAKS-Alt assessments.

### **Schedule for Online Projects between 2006-2007 and 2009-2010**

A number of online projects will be implemented between 2007 and 2010; these projects include online reporting, special education training modules related to the TAKS-Alt assessments, TOP rater qualification and TOP rater training modules for the Texas Observation Protocols (TOP), and online study guides.

Online reporting for TAKS will continue to be utilized in the 2006-2007 testing year. Online reporting provides administrators, teachers, parents and students with convenient access to score reporting information and will complement the paper reports that traditionally summarize TAKS results.

Four training modules will be provided to special education teachers to orient them to the TAKS-Alt assessment. These modules will orient teachers to the grade-level Texas Essential Knowledge and Skills (TEKS) curriculum, provide training for observing and scoring student performance, and provide specific online assessment training. The special education training modules will be introduced online in the 2006-2007 testing year.

Additional online training materials will be implemented for the TOP, which is used to determine English language proficiency for Limited English Proficient (LEP) students in writing, speaking, listening, and reading in grades K-2 components of the TELPAS program. A TOP rater qualification system and TOP rater training modules will be introduced in the 2006-2007 testing year. In addition, RPTE II practice tests will be provided online beginning in the 2008-2009 testing year.

Another project that will provide increased flexibility for students is online study guides, which will also become available beginning in spring 2007. Online study guides will use color, graphics, and animation to provide instruction and remedial exercises for students in novel and engaging ways.

### **Considerations Related to Online Administrations of Statewide Tests**

As evidenced by the plans described in this document, Texas is rapidly moving its assessment programs to an online environment. There are several considerations that will need to be addressed as traditional paper-and-pencil testing evolves into online testing. These include the following:

- district technology infrastructure and cost issues,
- concerns about maintaining test security in an online environment,
- the need to administer online and paper-and-pencil versions of tests at the same time, and
- the online assessment of special needs students.

*District technology and Infrastructure and costs.* A barrier in the implementation of online testing is the initial and ongoing investment in computer technology necessary for schools to adequately administer online tests. Currently, school districts throughout Texas vary widely in their technological capabilities.

According to School Technology and Readiness [StaR] Charts compiled in 2004-2005<sup>1</sup>:

- 3.2% of campuses report that they are in the “early technology” level of progress, where there are 10 or more students per computer, there is no broadband connection to the Internet, and no web-based learning.
- 55.7% of campuses surveyed believe they are in the “developing technology” stage where there are 5-9 students for each computer.
- Only 2.1% of campuses surveyed report they are “target technology” campuses where there is on-demand access for every student and direct connectivity in all rooms.
- 64.5% of respondents say there is only one technology person to support 750 computers.

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<sup>1</sup> Available at <http://starchart.esc12.net/teacher/0405SummaryData.mht>.

- Only 3.5% of campuses indicate that they have a campus technology plan focused on student success, have a technology person for 350 computers or less, as well as campus support staff, technology allotments, e-Rate, state or federal competitive grants, and local funding sources.

As stated in *The 2004 Progress Report on the Long-Range Plan For Technology 1996-2010* submitted by TEA to the 79<sup>th</sup> state legislature<sup>2</sup>:

Many schools are still using computers purchased in the 1990s. All districts and most all campuses have connectivity to the internet but not all have the bandwidth to take advantage of engaging content and other resources. Not all districts, campuses, and classrooms, have the connectivity and tools that they need to integrate technology into the teaching and learning process (p. 57).

Under these circumstances, it will be a challenge for all campuses to obtain the computer infrastructure to support exclusive online testing, especially for TAKS tests that are administered in several subjects and at all grades in a concentrated time frame.

*Concerns over maintaining test security.* Online testing enhances security by eliminating problems with distributing and securing test booklets and answer sheets. However, another aspect of test security has to do with the exposure of test questions administered online during a testing window that is longer than traditional paper-and-pencil testing time. A logical potential solution to the problem of not enough computers in the schools that is easily implemented with online testing is to lengthen the time over which testing occurs. For example, most schools would find a way to test all of their students in a given grade and subject if they were provided six or eight weeks to administer an online test. However, a single test form may quickly become known as it is exposed over time. Introducing multiple versions of test forms over the administration period can help to control this kind of exposure, but this in turn requires a significant increase in test development and/or a change in the test release policy that will permit test forms to be kept secure and used multiple times. Currently, Texas releases all test forms administered every other year. This limits the flexibility for reusing test forms from year-to-year in a consistent manner.

Even though schedules indicate that all TAKS grades and subjects will be available online by spring 2010, it is unclear if the number of students taking TAKS online will increase very much unless schools find ways to increase their computer infrastructures. Lengthening the administration dates will in turn depend upon developing additional items and/or reusing test forms so that multiple forms of online tests for each grade and subject can be given.

*The need to administer online and paper-and-pencil tests at the same time.* For the TAKS tests in the foreseeable future, it is unlikely that all schools will be able to test all of their students online. As a result, online tests and paper-and-pencil TAKS tests will continue to be offered at the same time and comparability of scores based on the two testing modes will need to be determined. Texas has done several studies on online versus paper test comparability, and will continue to do such studies as new online tests are introduced. However, the need to maintain comparability between online and paper-and-pencil tests limits the amount of innovation that can be introduced in the online tests. For example, Texas piloted a number of innovative items as part of the grade 8 TAKS Science test. As engaging as this type of item is, it is not possible to administer them in paper-and-pencil format. This raises questions about whether online and paper-and-pencil versions of the same test will measure the same skills and abilities, and whether scores on the two versions of the tests can be compared.

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<sup>2</sup> Available at: [http://www.tea.state.tx.us/technology/lrpt/lrpt\\_progress.html](http://www.tea.state.tx.us/technology/lrpt/lrpt_progress.html).

*Online assessment of special needs students.* The implementation of online testing in Texas brings uncertainties and challenges related to assessing special needs students. On one hand, computer testing provides a number of tools that can enhance the assessment of special needs students, such as enlarged screen presentation, text-to-speech capabilities, avatars that can help to guide students when they are confused, automated pacing, etc. On the other hand, most secure online test delivery systems are not yet sophisticated enough to offer the array of possible technology for assisting special needs students, which means that these students must be assessed using traditional paper-and-pencil approaches. Furthermore, as technological advancements begin to provide tools to assist special needs students, questions will be raised about whether online assessments that include assistive technologies measure the same skills and abilities as the regular online assessments. These questions will be difficult for TEA to answer both from a research and policy standpoint.

## **Summary**

Texas is actively pursuing the implementation of online testing and related online technology as part of the statewide assessment program. Online testing is available in several TAKS grades and subjects, as well as the Algebra I End-of-Course Exam. This briefing paper summarized the schedule for introducing online administrations in the Texas statewide assessment program from 2007 to 2010 along with the schedule for a number of related online projects. We also discussed several considerations related to online testing that will continue to be worthy of attention as online testing evolves. Despite issues, challenges and uncertainties, TEA is committed to a systematic implementation of online testing in the statewide assessment program that permits districts and campuses to prepare and train their personnel over a several year period.