



Accessibility for Technology-Enhanced Assessments



All students, including those with disabilities, are expected to participate in challenging assessments of academic achievement, via either general assessments or alternate assessments. Students who are blind, who experience vision disabilities or low vision, or who have motor disabilities make up a small proportion of all students. Less than one percent of children under 18 are blind or have low vision that is not corrected by eyeglasses and about one percent of students experience physical disabilities, including those who have arm and hand limitations. Historically, these disabilities have been among the most difficult to accommodate on standardized tests. The United States Department of Education Office of Elementary and Secondary Education has therefore identified a critical need to improve the accessibility of assessment systems for students with blindness, low vision, or motor disabilities.

New Assessments Underway

Currently, six major federally funded assessment consortia are preparing new large-scale assessments. These consortia are:

- Partnership for Assessment of Readiness for College and Careers (PARCC)
- SMARTER Balanced Assessment Consortium (SBAC)
- Dynamic Learning Maps Alternate Assessment System Consortium (DLM)
- National Center and State Collaborative Partnership (NCSC)
- Assessment Services Supporting ELs through Technology Systems (ASSETS)
- English Language Proficiency Assessment for the 21st Century (ELPA21)

A major impetus for the development of new assessments is the widespread adoption of the Common Core State Standards, which dramatically change the way that instructional goals are conceptualized. A key feature of these new assessments will be the use of desktop, laptop and touchscreen tablet technology for delivery of tests and collection of student responses. The consortia have all committed to exploring the use of technology-enhanced assessment items and tasks to increase the validity of inferences from test scores.

Accommodations for Students with Vision and Motor Disabilities

Traditionally, assessments have been altered extensively for students who are blind, have low vision, or have motor disabilities. Accommodations have included alternate forms such as Braille or large print paper-and-pencil tests and alternate means of presentation and response, such as the use of readers, scribes and assistive technology. Many students with vision or motor disabilities have participated in alternate assessments that are individualized and non-standardized. However, the effects of these accommodations have not been carefully

studied. Cognitive demands during testing may be higher with accommodations such as tactile graphics, oral presentation and dictation to a scribe. The physical effort may also be greater when reading Braille or operating an eye-gaze or sip-and-puff computer interface. The time required to complete an assessment may be longer and result in greater fatigue. Technology-enabled accessibility features for these students have not yet been tested. The comparability of scores and score inferences with these assessment adaptations has not yet been evaluated.



The Accessibility for Technology-Enhanced Assessments Project

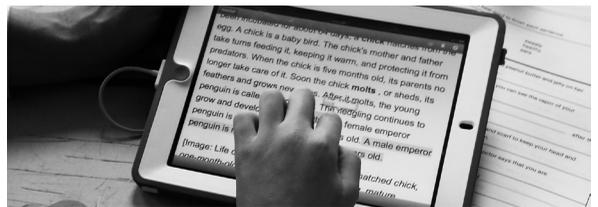


Accessibility for
Technology-Enhanced
Assessments

The purpose of the Accessibility for Technology-Enhanced Assessments (ATEA) project is to investigate next-generation computerized assessments to determine if they are accessible or can be made accessible for students with blindness, low vision, or motor disabilities so that inferences made from test scores for these students are comparable to those of other students. A major purpose of this undertaking is to identify the means to validly and accurately include these students in assessments that are under development by the six consortia. Through individualized cognitive task tryouts, large-scale data collection and the chance to use powerful methodological procedures on large groups of students with low-incidence disabilities, definitive outcomes regarding the usefulness of assessment procedures, tools and accommodations as well as the validity of score inferences will be obtained.

Assessment items and tasks for both English language arts and mathematics will be written and prepared for delivery to students with vision or motor disabilities. Through task tryouts and large-scale data collection, the ATEA project will assess the usefulness of technology-enabled

features and accommodations for these students. Within the evaluation of score comparability, issues of time requirements, cognitive load, effort and fatigue will be studied. These questions will be examined for both person and technology-delivered accessibility methods. The resulting outcomes will include a catalog of accessible technology-enhanced item and task types with guidelines for optimal access, a comprehensive description of characteristics of students with these low-incidence disabilities, data on student performance and the comparability of scores, procedural documentation and recommendations by task and item type for students with vision and motor disabilities. Matching student needs to new assessment technologies will enhance the identification and development of technology-based instructional supports and adaptations that will advance educational and vocational opportunity. Results are expected to positively impact assessments based on the Common Core State Standards. The completion of this project promises to provide participating states with tools that will significantly improve the accessibility of assessments for these students, resulting in improved assessment validity and educational planning.



Timeline of Major Project Activities

- The first phase of the ATEA project consisted of the development and review of sample technology-enhanced assessment items and tasks. The project team reviewed available information from the major assessment consortia about their technology-enhanced item and task types, planned technology-enabled accessibility features and anticipated accommodations for students with vision and/or motor disabilities. Content-area test developers prepared assessment items and tasks in math and English language arts for review by a panel of experts in vision and motor disabilities. This review produced an analysis of the anticipated accessibility for each item type with its associated technology-enabled accessibility features and with or without person- and computer-delivered accommodations. Results of this review will form the basis of publicly available accessibility guidelines and recommendations for students with vision and motor disabilities available in 2013.
- Task tryouts of these sample items and tasks with recommended accommodations and supports will take place in Kansas during the fall 2013. Individual students will interact with the test delivery platform, computer-delivered accessibility features and accommodations and any additional person-delivered accommodations or special tools that have been identified as potentially necessary to optimize accessibility.
- Results of task tryouts will be shared with teacher panels in up to five of the participating states during fall 2013. Educators with experience with students who have vision and motor disabilities will engage in demonstration assessment tasks and provide further feedback on accessibility and instructional relevance of new items and tasks.
- During the spring 2014, large-scale data collection will occur throughout the consortium member states. Assessments will take place in both English language arts and math. Students will be solicited from the consortium member states with a participation goal of at least 1200 students with blindness or low vision and an additional 1200 students with motor disabilities. Control students without disabilities will be included in order to compare items delivered with and without accessibility features and accommodations. The eight member states will identify students and teachers for participation.

Large-Scale Data Collection Sampling Plan

Grade Levels	Blindness or Low Vision	Motor Disabilities	Control Students	Total Students
3, 5, 7, 10	300	300	300	900
Total	1200	1200	1200	3600

National Advisory Board

The ATEA project will utilize a National Advisory Board made up of experts who are also members of the major assessment consortium technical advisory committees. The National Advisory Board will provide guidance for all project activities. They will review the progress of the project and provide recommendations on procedures and outcomes. The Board will meet four times during the two-year project. The first meeting focused on expert review of technology-enhanced item types and interfaces and plans regarding accessibility and proposed accommodations for the task tryouts. During the second meeting, the National

Advisory Board will review the results of the task tryouts, development of items prepared for large-scale data collection and provide feedback on the first draft of the guidelines and recommendations for accessibility that will be made public later in the first year. The third meeting will occur in early spring 2014 for the purpose of evaluating the plans for collection of large-scale data and to provide assistance with technical issues or difficulties. The final meeting, during the summer 2014, will provide technical assistance with large-scale data analysis and dissemination of results.

Dissemination of Results

A multifaceted approach to dissemination of information will be used: webinars with the consortium member states; a project website with public and private components to facilitate review among members as well as dissemination of products, information and technical reports; and conference proposals, presentations and publications.

During the grant timeline, project staff will submit proposals and attend national conferences to disseminate preliminary and intermediate results. Communication

with the partner states will occur monthly throughout the planning and data collection process. Partner states and national advisors will be briefed on the contents of reports for assistance and feedback before reports are made public.

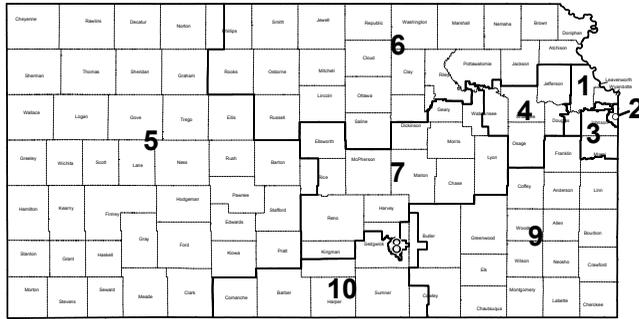
At the close of data collection, analysis of data and preparation of papers and reports will continue until September 2014. Dissemination of final results and recommendations will be made public through the project website.

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The mission of the Kansas State Board of Education is to prepare Kansas students for lifelong success through rigorous, quality academic instruction, career training and character development according to each student's gifts and talents. To accomplish this mission the State Board has identified five goals. They are as follows:

- Provide a flexible delivery system to meet our students' changing needs.
- Provide an effective educator in every classroom.
- Ensure effective, visionary leaders in every school.
- Promote and encourage best practices for early childhood programs.
- Develop active communication and partnerships with families, communities, business stakeholders, constituents and policy makers.

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Please visit the ATEA website at:

ateassessments.org

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