

Design Considerations

Article 6

Thompson, S. J., Thurlow, M. L., Quenemoen, R. F., & Lehr, C. A. (2002). *Access to computer-based testing for students with disabilities* (Synthesis Report 45). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes. Retrieved January, 2006 from the World Wide Web: <http://education.umn.edu/NCEO/OnlinePubs/Synthesis45.html>

With the reauthorization of Title I, nearly all states are in the process of designing new assessments. As part of this process, several states are considering the use of computer-based testing, since this is the mode in which many students are already learning. Several states have already begun designing and implementing computer-based testing. According to a report to the National Governors Association (2002), "Testing by computer presents an unprecedented opportunity to customize assessment and instruction to more effectively meet students' needs" (p. 8). Some of the potential opportunities presented by computer-based testing include: efficient administration, preferred by students, self-selection options for students, improved writing performance, built-in accommodations, immediate results, efficient item development, increased authenticity, and the potential to shift focus from assessment to instruction. However, there remain many challenges that must be overcome in order for computer-based testing to be effective for large-scale state assessments. These include: issues of equity and skill in computer use, added challenges for some students, technological challenges, security of online data, lack of expertise in designing accessible Web pages, and prohibitive development costs.

The validity of test results can be increased for many students because many accessibility features can be built into computer-based tests, including students with disabilities and English language learners, without the addition of special accommodations. Even though items on universally designed assessments are accessible for most students, there will still be some specialized accommodations, and computer-based testing needs to be amenable to these accommodations. Students with disabilities will be at a great disadvantage if paper/pencil tests are simply copied on screen without any flexibility. A large number of students will need to continue to use paper/pencil tests, with a possible reduction in the comparability of results, and an increase in administrative time and potential errors when paper/pencil responses are transferred by a test administrator to a computer for scoring.

There are many resources for building accessible computer-based tests in order to keep from reinventing systems from state to state. These are described throughout this report. Several steps are suggested to assist groups in the thoughtful development of computer-based tests. These include: Step 1. Assemble a group of experts to guide the transformation. Step 2. Decide how each accommodation will be incorporated into the computer-based test. Step 3. Consider each accommodation or assessment feature in light of the constructs being tested. Step 4. Consider the feasibility of incorporating the accommodation into the computer-based test. Step 5. Consider training implications for staff and students. Skipping any of these steps may result in the design of assessments that exclude large numbers of students.

In conclusion, a report to the National's Governors Association (2002)) sums up the critical issue as computer-based testing grows across the United States and throughout the world: Do not forget why electronic assessment is desired. Electronic assessment will enable states to get test results to schools faster and, eventually, cheaper. It will help ensure assessment keeps pace with the tools that students are using for learning and with the ones that adults are increasingly using at work. The technology will also help schools improve and better prepare students for the next grade, for postsecondary learning, and for the workforce.