

Computer-Based Testing

Setting the Stage

Computer-based testing (CBT) has been utilized successfully for professional certification testing and site-based admissions testing for a decade. Now, many states are interested in CBT for high stakes, large-scale testing in K-12, and some which are beginning to implement both pilot programs and staged rollouts. Early adopters of K-12 CBT focused more on classroom assessment than on accountability testing, since there are fewer issues related to scheduling of computers and of ensuring security for classroom assessments, than for large-scale accountability tests. For broad adoption of CBT, schools will face the following challenges:

- Infrastructure to support network or web-based delivery,
- Variability in the age of computers in the schools,
- Conflicts between instructional and assessment demands for computers and
- On-site technical support for trouble-shooting.

Discussion

CBT has the potential of making assessment more efficient. Students can potentially receive feedback at the end of the testing period – rather than waiting for scores. (School district and state releases of scores would be delayed until all students test.) However, for CBT to fulfill its promise, critical economic and resource barriers must be overcome. Until schools having an adequate number of stations connected to the Internet, demands will exceed capacity. All computer stations must meet basic requirements for power to run programs and for interconnectivity. Schools must have adequate access to the Internet (e.g., T-1 lines), servers must be secure and safeguards must be in place to protect student identity. Technologically, test publishers are ready to test on-line, but schools, states and districts need to build the infrastructure and capacity to allow it to happen.

Conclusion

Publishers welcome the advent of CBT. Time spent shipping and receiving can be used to expand the testing window and conduct analyses. Test security can be enhanced with encryptions and passwords. Learning systems, where measurement could be an integral part of instruction, are integrated rather than stand-alone processes. The challenge is in providing school and district capacity – from infrastructure to providing technology that can meet the task.

For the near future, schools, districts and states are likely to need assessment solutions that incorporate both paper and online delivery of content. Today, the testing industry has the technology now to deliver CBTs for a range of purposes. Once the schools have the infrastructure and sufficient computers for their students to support a testing administration schedule, the testing industry will be ready to deliver CBTs.