



Computer Adaptive Testing

The Smarter Balanced Assessment Consortium is a state-led consortium working collaboratively to develop next-generation assessments aligned to the Common Core State Standards (CCSS) that measure student progress toward college- and career-readiness. The work of the Consortium is guided by the belief that a high-quality assessment system can provide resources and tools for teachers and schools to improve instruction and help students succeed.

An Innovative Approach

The Smarter Balanced assessment system capitalizes on the precision and efficiency of computer adaptive testing (CAT) for both the mandatory summative assessment and the optional interim assessments. Based on student responses, the computer program adjusts the difficulty of questions throughout the assessment. For example, a student who answers a question correctly will receive a more challenging item, while an incorrect answer generates an easier question. By adapting to the student as the assessment is taking place, these assessments present an individually tailored set of questions to each student and can quickly identify which skills students have mastered. This approach represents a significant improvement over traditional paper-and-pencil assessments used in many states today.

- ▶ **Better information for teachers:** Optional computer adaptive interim assessments will provide a more detailed picture of where students excel or need additional support, helping teachers to differentiate instruction. The interim assessments will be reported on the same scale as the summative assessment, and schools will have flexibility to assess small elements of content or the full breadth of the CCSS at locally-determined times throughout the year.
- ▶ **More efficient and more secure:** Computer adaptive tests are typically shorter than paper-and-pencil assessments because fewer questions are required to accurately determine each student's achievement level. The assessments draw from a large bank of questions, and since students receive different questions based on their responses, test items are more secure and can be used for a longer period of time.
- ▶ **More accurate:** Computer adaptive testing offers teachers and schools a more accurate way to evaluate student achievement, readiness for college and careers and to measure growth over time.

Support for States

Smarter Balanced is committed to helping states transition successfully to CAT. We are collaborating with PARCC to develop a technology readiness tool to identify infrastructure gaps that might serve as barriers for computer-based assessments. States will have the option to administer a paper-and-pencil version of the summative assessment during a three-year transition period. Finally, the 12-week administration window for the summative assessment will reduce pressure on school information technology resources.

Additional Resources

Smarter Balanced is working with experts in the field of computer adaptive testing, drawing on the experience of member states like Oregon, which implemented CAT in 2001. For more information on CAT, see:

- ▶ *A Framework for the Development of Computerized Adaptive Tests*, Nathan A. Thompson, Assessment Systems Corporation, and David J. Weiss, University of Minnesota
- ▶ *The Road Ahead for State Assessments*, Rennie Center for Education Research & Policy, Policy Analysis for California Education (PACE)

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