

## Evaluate the Effectiveness of an Online Algebra 1 Course

**Client.** Educational Development Center (EDC)

**The Challenge.** Many middle school and high school students may not have access to a traditional in-school Algebra 1 course or do not choose to take such a course in a traditional setting. Students are increasingly being offered the opportunity to take the course online as an alternative. EDC, a research organization, was asked to evaluate the effectiveness of an online Algebra 1 course offered to students in the Northeastern United States. EDC asked SEG and its partner Internet Testing Systems to develop and administer a mathematics assessment for use in conducting this evaluation.

**The Solution.** SEG designed and implemented a computer adaptive (CAT) mathematics assessment that could be used by EDC to measure student mathematics skills at the beginning of the project and at the conclusion of the project. The assessment provided more than a thousand four response option multiple choice questions covering the content typically encountered in Algebra 1 as well as the prerequisite knowledge and skills expected. The assessments were calibrated using a one-parameter RASCH model. The resulting 20 item test had a reliability ranging from about .80 to .90. EDC designed and conducted a scientific effectiveness study relying on the SEG assessment. A quasi-experimental design was used to investigate program effectiveness.