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Chapter XIII

Online Assessment in the K-12 Classroom:

A Formative Assessment Model for Improving Student Performance on Standardized Tests

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Abstract

ThinkLink Learning has developed an online formative assessment model that helps teachers and students prepare throughout the year for end-of-year state and national summative assessments. Four aspects of the ThinkLink system are discussed in this chapter: (a) how online formative assessment can help improve student learning on standards tested at a state or national level, (b) the advantages and disadvantages of using online assessment, (c) three case studies that demonstrate the predictive validity of this system and its use in improving student learning, and (d) future trends in the use of online assessment and directions in measuring student learning on standardized tests. In general, ThinkLink Learning has pioneered online solutions to large-scale assessment problems.

Introduction

One of the problems that face the teacher in the K-12 classroom is the disjuncture between classroom instruction and assessment during the regular school year and the standardized state or national assessments that are often given near the end of a school year. These end-of-year mandated tests, often called *summative assessments,* measure a student's progress toward state or national standards. Summative assessments have been used for many high-stakes purposes: for student promotion to the next grade, as a graduation requirement, as a measure of teacher effectiveness, and as a measure of school or district progress toward state or national goals.

Given the importance attached to these summative assessments, numerous problems exist with integrating the standards measured on these tests and the goals of classroom instruction. For instance, the objectives on these standardized tests are sometimes not sufficiently aligned with curriculum standards, and practice materials for these tests are inadequate or unavailable. Furthermore, teachers and students are almost never provided with the questions from these standardized assessments, making review of specific weaknesses almost impossible (see Bracey, 2002; Kohn, 2000; Popham, 1999; Sacks, 1999). Thus, a classroom teacher is faced with the dilemma of how to prepare students for standardized tests that are often used for accountability, with no practical way of measuring throughout the year a student's progress toward the objectives tested on these exams.

Preparation for classroom assessments is not so problematic. Teachers can more easily ensure that tests cover material that is taught. Teachers can even use assessments as a teaching tool. These formative assessments can improve student learning on a variety of topics. Procedures of formative assessment make it easier to align instructional objectives directly with assessment. Formative assessments can be effectively integrated into classroom learning when the following characteristics are met: test objectives are clearly identified for teachers and students, a mechanism of assessment or self-assessment exists within the classroom environment, and data from these assessments can be directly connected to subsequent assessments. Formative assessments can be used continuously within the classroom setting to provide feedback to both students and teachers on progress toward identifiable goals. The question then becomes the following: How can formative assessments be used to improve student performance on summative assessments?

ThinkLink Learning has developed an online formative assessment model that helps teachers and students prepare throughout the year for end-of-year state and national summative assessments. This assessment model has been in practice since 2001 in these states: Tennessee, Kentucky, Alabama, Mississippi, West Virginia, and New Mexico. During the school year 2003-2004, over 200,000 students used the ThinkLink system. Thus, ThinkLink Learning has pioneered online solutions to large-scale assessment problems (Tindal & Haladyna, 2002). Four aspects of the ThinkLink system are discussed in this chapter: (a) how online formative assessment can help improve student learning on standards tested at a state or national level, (b) the advantages and disadvantages of using online assessment, (c) three case studies that demonstrate the predictive validity of this system and its use in improving student