

ZMATH 2016a.00403

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Assessing for learning.

Math. Teach. Middle Sch. 20, No. 7, 424-433 (2015).

Summary: Continual assessment of student understanding is a crucial aspect of teaching. The adoption of the Common Core State Standards for Mathematics (CCSSM) represents raised expectations for the level and depth of mathematical understanding that is expected of our students. But new standards also mean new tests. What those tests will be like is of concern for many: students, teachers, parents, and school administrators. Although various consortia and groups work on designing better assessments for accountability and reporting at the state and national levels, this article is concerned with improving assessment design and practice in the classroom. How can teachers design test items to meet the goals of CCSSM and assess deep mathematical understanding while also offering opportunities to learn? The authors present research-based strategies that use levels of mathematical cognition to design assessment items. These design strategies apply to such formative assessments as warm-ups; informal questioning; class discussions; problem sets incorporating practice, evaluation, and feedback; and summative assessment including unit tests, projects, and quizzes that are used to determine grades. CCSSM provides a common framework of learning goals; in this article, they we focus on one standard from seventh grade to illustrate the strategies. (ERIC)

Classification: D60 C30

Keywords: formative assessment; summative assessment; cognitive processes; mathematical concepts; knowledge level; concept formation; learning levels; creative thinking

<http://www.nctm.org/Publications/mathematics-teaching-in-middle-school/2015/Vol20/Issue7/Assessing-for-Learning/>