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Linking National and International Educational Assessments: NAEP and TIMSS

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In an increasingly global economy, comparisons of student achievement in the United States to student achievement in other countries are of interest to the nation. The National Center for Education Statistics (NCES) reports on mathematics and science achievement of 4th- and 8th-grade students for the all U.S. states and 60 countries. However, the reports are based on two separate assessments. Results for the U.S. states are based on the National Assessment of Educational Progress (NAEP) and results for the other countries are based on the Trends in International Mathematics and Science Study (TIMSS). Further, unlike NAEP, TIMSS does not have an on-going state component. Thus, U.S. states cannot compare performance of their students with those of the students in other countries. To enable such comparisons, NCES launched a NAEP-TIMSS Linking study where the goal is to project TIMSS mathematics and science scores for the students in the 50 states that participated in NAEP. This linking study targeted eighth-grade students. NAEP assessments of mathematics and science were conducted in winter 2011 (January-March) and TIMSS assessments of mathematics and science were conducted in spring 2011 (April-June). Three approaches— statistical moderation, calibration, and projection—are applied in linking the two scales. In this presentation, discussion will focus on the study design and approaches applied. In addition, results will be shared if released to the public by the NCES before March 2013. Otherwise results of earlier linking study conducted by the American Institutes for Research in 2007 using the statistical moderation technique will be shared.