

NAEP Assessment of Mathematics in Puerto Rico: A Short History and Plans for Reporting

The “No Child Left Behind” Act requires Puerto Rico to participate in the NAEP mathematics assessment at grades 4 and 8 as a condition of receiving Title I funds. Puerto Rico was exempted from the NAEP reading assessment, which is a test of reading in English, because the native language of Puerto Rico is Spanish.

History of the Puerto Rico Assessment

The first NAEP mathematics assessment was given in Puerto Rico’s public schools in 2003. Because a large number of items were either omitted or responded to incorrectly, results were not reported that year. The assessment was repeated in 2005 with modifications to the translation of items, and results for both years were reported. However, readers were cautioned not to compare the results for the two years.

The assessment was administered again in 2007. Comparison of the results to those in 2005 could not be reported, however, because the procedures used to compare among years could not produce stable trend estimates for Puerto Rico. While scale scores could not be reported, however, NCES did report student performance on specific questions in the various math content areas. After meeting several times with Puerto Rico educators and a panel of experts, it was decided not to administer a full assessment in 2009. Rather, a series of research studies was conducted in Puerto Rico to find out how to measure students’ mathematical knowledge and skills in a more reliable way to enable reporting scale scores that could be compared to states on the mainland. The presentation at the Board meeting will describe these studies and the findings.

One major conclusion from the research was that the NAEP mathematics items were not testing the skills that most Puerto Rico students possessed. As a result, new questions were developed to measure more precisely those skills and abilities. These items were administered in 2011 in Puerto Rico and the mainland in a study called Knowledge and Skills Appropriate (KaSA). The new items were designed to measure the less complex skills called for in the NAEP mathematics framework. When administered along with more traditional NAEP items, a scale score was successfully calculated for Puerto Rico. It was decided to replicate this assessment in 2013 before reporting results to ensure that they could be reported in a reliable and valid way.

Reporting Plans

Given the success of these efforts, plans are underway to produce a report for Puerto Rico that will show their mathematics scores and achievement-level results for 2011 and 2013. It is hoped that in the future Puerto Rico’s mathematics results can be incorporated into the regular state-level NAEP reporting.

NAEP Reports on Puerto Rico

- Mathematics 2007: Performance of Public School Students in Puerto Rico, Focus on the Content Areas
<http://nces.ed.gov/nationsreportcard/pdf/studies/2009451.pdf>
- Mathematics 2005 Performance in Puerto Rico: Focus on the Content
<http://nces.ed.gov/nationsreportcard/pdf/studies/2007460.pdf>
- Mathematics 2003 and 2005: Performance in Puerto Rico, Highlights
<http://nces.ed.gov/nationsreportcard/pdf/studies/2007459.pdf>

Visit the NAEP publications page (<http://nces.ed.gov/pubsearch>) to view additional reports on Puerto Rico, including a technical report and Spanish-language versions of the reports noted above.