Summary: This study explored how mathematics content and methods courses for preservice elementary and middle school teachers could be improved through the integration of a set of instructional materials based on the National Assessment of Educational Progress (NAEP). A set of eight instructional modules was developed and tested. The study involved 7 university instructors and 542 preservice teachers (PSTs) from three different universities. A quasi-experimental nonequivalent groups design was used for this study in which the following data sources were collected and analyzed. Three versions of a learning mathematics for teaching test were given to assess PSTs’ mathematical content knowledge for teaching: (a) elementary number concepts and operations – content knowledge; (b) elementary geometry – content knowledge; and (c) middle school number concepts and operations – content knowledge. In addition, the mathematics teacher efficacy beliefs instrument was given to assess PSTs’ teacher efficacy beliefs. Test results were analyzed using paired samples t-tests. Findings suggest that use of instructional materials, based on NAEP, with PSTs results in increases in their mathematical content knowledge for teaching and in their teaching efficacy beliefs.

Classification: B50 D39

Keywords: course development; mathematics content; preservice teachers; teacher education; instructional modules

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