

Public Abstract

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Title: Mathematics Textbooks and State Curriculum Standards: An Analysis of the Alignment Between the Written and Intended Curricula

This study documented the alignment between state curriculum standards and the treatment of fraction concepts and computation in popular elementary and middle grades mathematics textbooks. Grade-level Learning Expectations (GLEs) from the five most populous states that use a system of statewide textbook adoption and the five most populous states that are "open territory" comprised the state sample, while two popular elementary (K-6) textbook series and two popular middle grades (6-8) textbook series represented the textbook sample. State GLEs and textbook instructional segments were coded to a set of generalized learning expectations related to fraction concepts and computation.

Results revealed varying degrees of alignment across the ten state GLEs and four textbook series. In general, while a high percent of a state's GLEs corresponded to textbook instructional segments, there are often many other instructional segments in the textbook series that do not correspond to any state GLEs or correspond to GLEs at a different grade level. At the elementary level, alignment was stronger between the GLEs from the "big three" textbook adoption states (CA, TX, FL) and textbook instructional segments than between the other seven state's GLEs and the textbooks. At the middle grades, the opposite effect was true. The proportion of GLEs from textbook adoption states aligned to the elementary series is significantly greater than the proportion of GLEs from non-adoption states, while a non-significant relationship in favor of the non-adoption states was found for the middle grade series.