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Exploring the use of new representations as a resource for teacher learning.

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Summary: An important goal of mathematics education reform is to support teacher learning. Toward this end, researchers and teacher educators have investigated ways in which teachers learn about mathematical content, pedagogical strategies, and student thinking as they implement reform. This study extends such work by examining how one elementary school and one high school teacher learned from students' interpretations of new conceptually based representations contained in instructional materials aligned with the "Principles and Standards for School Mathematics" (National Council of Teachers of Mathematics, 2000). Results indicated that teaching with new representations provided a rich context for teacher learning at both the elementary and high school level, and three dimensions were identified along which such learning occurred. The results suggest that pedagogical content knowledge with respect to representations is an important facet of teacher cognition that should be studied in greater depth. (ERIC)

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