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Rhoads, Kathryn; Weber, Keith

Exemplary high school mathematics teachers' reflections on teaching: a situated cognition perspective on content knowledge.

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Summary: This study explored mathematical knowledge needed for teaching by seeking perspectives of exemplary high school mathematics teachers. Participants were 11 teachers in one region of the United States who had been recognized for their excellent teaching through standardized programs. In individual interviews, participants reflected on their teaching with consideration of the mathematical knowledge used. Interview questions about abstract mathematical knowledge were developed from a cognitive perspective, but these did not capture teachers' understandings. Instead, grounded analysis of teachers' reflections and a situated cognition perspective illuminated teachers' rich ways of knowing and using mathematics. This work illustrates how a change in research perspective can give insight into the affordances, rather than deficits, of teachers' mathematical knowledge.

Classification: C39 C49 D39 B50

Keywords: content knowledge for teaching; secondary mathematics; teacher reflections; situated cognition; exemplary teachers

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