

Public Abstract

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The Development of Pedagogical Content Knowledge of a Mathematics Teaching Intern:
The Role of Collaboration, Curriculum, and Classroom Context

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In this study I examined the role of collaboration, curriculum, and the classroom context in the development of pedagogical content knowledge of a mathematics teaching intern. Additionally, I investigated the nature of the collaborative process between the teaching intern and his mentor teacher as they collaborated *on action* (during structured planning time) and *in action* (while students were present). The teaching internship resided in a seventh-grade mathematics classroom during the teaching of a probability unit from a standards-based curriculum, *Connected Mathematics Project*.

Using existing research, a conceptual framework was developed and multiple data sources (audio taped collaborations, observations of the intern's teaching practices, semi-structured interviews, and a mathematics pedagogy assessment) were analyzed in order to understand the teaching intern's development of knowledge of instructional strategies, knowledge of student understandings, curricular knowledge, and conceptions of purpose for teaching probability.

Results identified numerous dilemmas related to planning and implementing instruction. Although the teaching intern developed pedagogical content knowledge, he often experienced difficulty accessing it while teaching. Through collaboration, curriculum, and the classroom context, the teaching intern learned to incorporate his pedagogical content knowledge in instruction. Analysis revealed that as he gained new knowledge he was able to shift his focus from content to the use of instructional strategies for teaching and learning. The curriculum was the primary focus of collaboration and initiated the intern's examination of the learning-to-teach process. Collaboration *on action* and collaboration *in action* proved to be essential elements in the development of pedagogical content knowledge.