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Meagher, Michael; Edwards, Michael Todd; Ozgun-Koca, S.Asli

The shift from “learner/doer of mathematics” to “teacher of mathematics”: a heuristic for teacher candidates.

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Summary: Successful teacher preparation programs provide learning experiences that help teacher candidates make the shift from “student” to “teacher”. In this paper we present research on the implementation of a process for providing candidates such experiences. Utilizing the Mathematics as Teacher Heuristic (MATH) process, prospective high school mathematics teachers explore rich problems by solving the task, analyzing samples of student work, designing a solution key, and modifying the task. We use their engagement in these explorations and reflections on the process to analyse the development of candidates’ Content Knowledge and Pedagogical Content Knowledge.

Classification: D39 C39 C29

Keywords: preservice teachers; knowledge base for teaching; problem solving; student attitudes; pedagogical content knowledge; teacher knowledge; mathematical knowledge for teaching; teacher enculturation; student work

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