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Erica R Miller* (erica.miller@huskers.unl.edu). *Mathematical Knowledge for Teaching Examples in Pre-Calculus: A Collective Case Study*. Preliminary report.

The purpose of this collective case study is to examine mathematical knowledge for teaching examples in pre-calculus. The instructors involved in the study were experienced graduate teaching assistants who were teaching their course for the third time and were identified as good teachers. Utilizing a social constructivist and cognitive theory approach, I analyzed video recordings of enacted examples. The central question that guided this analysis was: What is the mathematical knowledge for teaching examples in pre-calculus? The goal of this study is to examine undergraduate mathematical knowledge for teaching from the perspective of practice, instead of relying on existing frameworks. As a result of this study, the author developed a model of mathematical knowledge for teaching examples in pre-calculus that includes knowledge of representations, students, instruction, specialized content, and connections when enacting high cognitive demand examples. (Received August 26, 2017)