

1163-97-537

Elizabeth A. Burroughs* (burroughs@montana.edu). *Five types of connections between undergraduate mathematics and teaching secondary mathematics.*

Robust preparation of future secondary mathematics teachers requires attention to the acquisition of mathematical knowledge for teaching. In the last decade, researchers have focused on the ways that the study of advanced mathematics as part of teacher preparation can promote prospective teachers' mathematical knowledge for teaching. The META Math project operationalizes mathematical knowledge for teaching to support mathematicians in addressing connections to teaching in their instruction. We identify five types of connections between undergraduate mathematics and teaching secondary mathematics: content knowledge; explaining mathematical content; looking back and looking forward; school student thinking; and guiding school students' understanding. We focus on the role of hypothetical human beings as a key feature of tasks included in mathematics content courses that promote mathematical knowledge for teaching. (Received September 08, 2020)