

1145-J5-1972

Jeremy F. Strayer* (jeremy.strayer@mtsu.edu), Department of Mathematical Sciences, Box 34, Middle Tennessee State University, Murfreesboro, TN 37132, **Yvonne X. Lai** (yvonnexlai@gmail.com), 306 Avery Hall, PO BOX 880130, Lincoln, NE 68588-0130, **Alyson E. Lischka** (alyson.lischka@mtsu.edu), Department of Mathematical Sciences, Box 34, Middle Tennessee State University, Murfreesboro, TN 37132, **Candice M. Quinn** (cmq2b@mtmail.mtsu.edu), Department of Mathematical Sciences, Box 34, Middle Tennessee State University, Murfreesboro, TN 37132, and **Cynthia O. Anhalt** (canhalt@math.arizona.edu), Department of Mathematics, 617 N. Santa Rita Ave., Tucson, AZ 85721. *A Working Framework for Observing and Interpreting Preservice Secondary Teachers' Development of MKT in Undergraduate Mathematics Courses.*

We present our work on developing mathematical knowledge for teaching (MKT) in preservice secondary mathematics teachers. Based on the analysis of 59 teachers' responses to tasks that approximate the practice of teaching mathematics in 2 content courses across 3 institutions during 3 different semesters, we propose a framework for observing and interpreting teachers' MKT. Our framework integrates (1) Silverman and Thompson's (2008) framework for examining the development of MKT; (2) Rowland's (2014) dimensions of MKT and categorization of teaching practices that elicit these dimensions; (3) and Ader and Carlson's (2017) framework for observing teaching actions that result from levels of decentering. Our data suggest that MKT may develop somewhat independently along different dimensions; and articulating key developmental understandings (Simon, 2006) is essential to describing the development of MKT. Our work is an important initial step toward a framework for helping mathematics instructors notice and cultivate the development of MKT in the preservice secondary teachers they teach in mathematics content courses. (Received September 24, 2018)