

**ZMATH 2016e.00144**

**Austin, Jathan**

**Prospective teachers' personal mathematics teacher efficacy beliefs and mathematical knowledge for teaching.**

Math. Educ. (Ank.) 10, No. 1, 17-36 (2015).

Summary: The purposes of this study were as follows: (1) To examine how K–8 prospective teachers' personal mathematics teacher efficacy beliefs vary when they are measured in the context of four written mathematical teaching scenarios, and (2) To examine the extent to which K-8 prospective teachers' personal mathematics teacher efficacy beliefs and mathematical knowledge for teaching are aligned. Forty-two prospective teachers participated in the study. Participants were first asked to respond to four written mathematical teaching scenarios that required responding, as a teacher, to student questions about fraction concepts. Prospective teachers then evaluated how effective they believed their responses would be for developing student understanding. Approximately two weeks later, participants were asked to write mathematical explanations for four written mathematical tasks that paralleled the teaching scenarios and were then asked to evaluate their own mathematical understanding of each task. Different patterns emerged based on whether prospective teachers exhibited high or low mathematical knowledge for teaching on a particular task. Additionally, reported self-evaluations of mathematical knowledge for teaching were helpful for understanding the nature of prospective teachers' personal teacher efficacy beliefs.

*Classification:* C29 C39

*Keywords:* preservice teacher education; teacher attitudes; beliefs; teacher characteristics; teaching effectiveness; research; self concept; self evaluation; teaching scenarios; mathematical knowledge for teaching (MKT); participants' MKT tasks

doi:10.12973/mathedu.2015.102a