

Exploring Preservice Teachers' Views of Students' Mathematics Capabilities Within Mediated Field Experiences

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This research explores preservice teachers (PSTs) views of students' mathematical capabilities (VSMC) within mediated field experiences (MFEs) and the role of beliefs on instructional decisions. In MFEs, teacher educators serve as instructors, coaches and supervisors as PSTs plan, enact, and debrief instruction (McDonald et al., 2014). The research questions were: What is the nature of PSTs VSMC across an MFE cycle? How might PSTs beliefs impact instructional decisions? What role might MFEs play in developing productive VSMC? Findings showed that some teachers believed students were incapable of engaging in rigorous instruction, and consequently, would not always respond to student difficulty in ways that helps students participate in rigorous mathematical environments. Results suggest the need to study how teachers might develop more productive VSMC and better support students who struggle. The analysis also revealed how daily debriefs within MFEs supported PSTs to glean general instruction principles to inform their teaching.

Keywords: Preservice Teacher Education, Teachers' Beliefs, Field Experiences

Studies show teachers' beliefs, specifically, how teachers *frame* student difficulty in mathematics, will determine the type of support teachers give to students, and therefore, ultimately play a role in how they will support students who struggle in mathematics. (Jackson, Gibbons, & Sharpe, 2017). Therefore, it is important to explore ways to support preservice teachers (PSTs) to develop productive view of students' mathematical capabilities (VSMC) within teacher education programs. In the realm of PST education, teacher educators have used mediated field experiences (MFEs), or methods courses held on university campuses and at K-12 schools, as a context for supporting PST learning (Campbell & Dunleavy, 2016). Daily co-planning sessions and lesson debrief discussions are rich sites to discuss critical moments and reframe student difficulties in terms of supports rather than lowered expectations.

The research questions for this study were: What is the nature of PSTs VSMC across an MFE cycle? How might PSTs instructional decisions in classroom enactments relate to their beliefs about students' capabilities to engage in high-quality mathematics instruction? What role might MFEs play in supporting PSTs to develop productive VSMC? This qualitative study involved interviewing, surveying and analyzing the written work of seven PSTs enrolled in an elementary mathematics methods course embedded within an MFE. To explore the nature of PSTs' VSMC throughout the study, I employed the analytic framework, *Views of Students' Mathematical Capabilities* (Jackson, Gibbons & Sharpe, 2017), to analyze whether PSTs framed student difficulties from an asset or deficit perspective (their *diagnostic framing*), and to categorize the nature of supports they feel are appropriate for students who struggle in mathematics (*prognostic framing*). Findings showed that some teachers believed students were incapable of engaging in rigorous instruction, and consequently, would not always respond to student difficulty in ways that help students participate in rigorous mathematical environments. Results suggest the need to study how PSTs might develop more productive VSMC and better support students who struggle. Our analysis also revealed how daily debriefs within MFEs supported PSTs to glean general instruction principles to inform their teaching.

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