Factors that Influence Primary Preservice Teachers' Self-Efficacy While Teaching Mathematics During Professional Practice

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Teaching mathematics for some primary preservice teachers can seem like a daunting prospect, with self-efficacy playing an important role in choices teachers make. In the context of this research, self-efficacy is the belief that a person holds about their ability to teach mathematics effectively. Like many people in society, the preservice teachers' past experiences of learning mathematics have influenced their beliefs and attitudes towards mathematics as a subject. While some preservice teachers report having positive learning experiences in mathematics, other do not. These negative experiences can challenge a teacher's self-efficacy for teaching mathematics. What is known is that a teacher's self-efficacy beliefs for learning mathematics significantly influences their beliefs about their capability to teach mathematics. Furthermore, a teacher's self-efficacy beliefs can influence the way they teach mathematics and the attitudes they project, which in turn has been found to impact student academic outcomes.

This research followed thirteen primary preservice teachers as they completed two professional practices in the final stages of the Master of Teaching (Primary) degree. The aim was to see what, if any, factors influenced positive changes to self-efficacy beliefs for teaching mathematics in the context of the professional practice classroom.

Drawing from lesson reflections, personal reflections and interviews conducted pre-, during and post- professional practice, their stories revealed several factors that positively influenced their self-efficacy beliefs for teaching mathematics. The factors were organised into a Building Teachers Self-Efficacy (BSTE) framework to show their interconnectedness. They are,

- *collaborative relationships* which highlight the importance of the supervisor/ preservice teacher relationship
- *resources* – information preservice teachers need to teach
- *teacher feedback* – importance of quality feedback
- *teaching practice* – having opportunities to practice and learn from mistakes
- *motivation and self-regulation* – freedom to practice their own teaching strategies, and
- *reflection-on and -for learning* – learning was increased through collaborative reflection.

I propose that if all six factors in the BSTE Framework are identified during professional practice, preservice teachers' self-efficacy for teaching mathematics is enhanced. Conversely, the absence of one or more factors causes an emotional reaction that negatively impacts their self-efficacy beliefs for teaching mathematics.

For more information, please refer to the following paper presented at the 46th Annual Conference of MERGA in July 2024.
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