Trajectories of Teacher Efficacy and Its Sources

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Introduction

The purpose of this research was to explore preservice secondary mathematics teachers’ teacher efficacy beliefs, the sources of teacher efficacy, and teacher concern over the duration of a one-year teacher preparation program. The quantitative and quantized data collected four times each program year show important changes throughout each program. Patterns appearing across years provide potential insight into teacher learning readiness and associated positioning of aspects and content of teacher preparation programs and courses.

Research Questions

1. How do preservice secondary school mathematics teachers’ teacher efficacy, sources of teacher efficacy, and teacher concern change throughout a teacher preparation program?
2. How do the sources of teacher efficacy and teachers’ concerns inform the development of preservice teacher efficacy about the teaching and learning of secondary mathematics throughout a teacher preparation program?

Method

Design: A mixed methods pragmatic approach (Morgan, 2007) using a modified convergent (or parallel or concurrent) design was used (Creswell, 2012).

Data Collection: At four points in the year, preservice teachers completed a short form of the TSES (Tschannen-Moran & Woolfolk Hoy, 2001), and responded to two short answer questions:
1. Describe a concern you have with respect to being a secondary school mathematics teacher.
2. Describe one thing from the preservice program that you feel contributed to your level of efficacy.

Data Analysis: TSES data were analyzed using repeated-measures ANOVAs over time, and Bonferroni post-hoc pairwise comparisons as appropriate. Short answer questions were coded deductively using the three teacher concerns and the four sources of self-efficacy. Codes were then quantified to analyze change over time.

Key Findings

First, changes in preservice teachers’ TSES, IS, CM, and SE scores and reported sources of teacher efficacy suggest the importance of positioning program aspects and anticipating learner readiness for acquiring new skills. AP appears to follow the same pattern over both years, higher at the start, with a large drop right away, ending low. The VER, M, VER/M sources appear to have similar trajectories across both years, being relatively more important than the other individual and combined sources.

Second, Self-concern appears to dominate preservice teachers’ thoughts throughout the program. Waving Impact concerns, lower at the end of program, suggests that (i) limited time in the program does not allow preservice teachers to appreciate the impact of their practice on student learning (e.g., Berliner 1994), and (ii) teacher learning must continue in a programmatic and intentional manner as an inservice teacher.

Next steps and questions: Significance of changes in the sources to teacher efficacy is inconsistent across two years. What is the consistent nature of the sources of teacher efficacy? Or, for example, considering the strong Mastery Experiences source at the end of the program, is it the program that affects these changes of source of efficacy or is it the learner who moves naturally through these changes of source of efficacy?

Discussion

Selected References


