

Public Abstract

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Graduation Term:FS 2009

Department:Curriculum & Instruction

Degree:PhD

Title:Alternatively Certified Mathematics Teachers:  
Factors that Contribute to Changes in Instruction Over Time

The focus of this study was the intersection of alternative certification for mathematics teaching, standards based teaching as described by the National Council of Teachers of Mathematics, and the No Child Left Behind Act that permitted alternatively certified teachers to be highly qualified.

This study investigated the instructional practices of 25 alternatively certified mathematics teachers in the state of Missouri over three years. Using qualitative methods, observation and interview data were analyzed to reveal the primary mode of instruction used in the classrooms and analyzed the changes in instructional practices over time. Vignettes of teachers were created to illustrate the instructional practices, and case study teachers were chosen to document the changes over time and reveal associated factors.

Six distinct instructional practices emerged from the data. The analysis of the changes over time revealed four types of teachers. Of those using a variety of practices, the factors of content-specific professional development and certification program support seemed to hold the largest influence on teacher growth in instructional repertoire.

The findings of this study imply that certification programs should focus on educating their participants on the effective use of a range of instructional practices and should focus on support structures for teachers in the classrooms. Furthermore, building principals should support teachers with mathematics-specific professional development, especially for small rural schools.