Changing Content Knowledge and Pedagogical Content Knowledge of Algebra Teachers as a Result of Professional Development

Abstract: In seeking to improve the mathematics education of all students, it is important to understand the connection between the content knowledge and pedagogical content knowledge of mathematics and how professionals can influence growth in both of these types of knowledge. We do not have an answer about the interplay of content knowledge and pedagogical content knowledge in successful instructional practices in the mathematics classroom. This study involves assessing the content knowledge and pedagogical content knowledge of secondary teachers of Algebra I. In addition, how are these types of knowledge expressed in instructional practices? Last how do content knowledge, pedagogical content knowledge, and instructional practices change as a result of professional development which gives attention to increasing both types of knowledge?

All are welcomed.