

Algebraic Reasoning in the Elementary Classroom: Results of a Professional Development Program for Teachers

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Summary

This paper describes a professional development experience designed to help teachers support their students to make, represent, and justify generalizations about the behavior of the operations. We report on the pre- and post-assessments of 36 teachers who participated in an online course and implemented what they were learning in their classrooms across a full school year, and of the 600 students in their classrooms versus a comparison group. Participating teachers improved significantly in articulating general claims about the operations, representing mathematical ideas, and using mathematical language and notation. Their students, particularly those in grades 3-5, provided significantly more relational explanations on post-assessment items than comparison students. We consider what characteristics of the professional development may account for these results.

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