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Improving Fraction Knowledge to Open the Door to Algebra

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Abstract

Recent studies have established that students knowledge about fractions is predictive of their readiness, performance, and learning in Algebra (Booth & Newton, 2012; Booth, Newton, & Twiss-Garrity, 2013). However, it is yet unknown whether the relationship between fractions and algebra is causal; that is, would improving students' knowledge of fractions cause improvements in their ability to perform in and learn Algebra? The present study examines the impact of improving fraction computation and fraction magnitude knowledge in real world classrooms on middle school students' learning of key concepts and problem-solving techniques in Algebra. Individual differences in the impact of improved fraction knowledge will also be investigated and discussed.