

ZMATH 2016f.00910

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Exploring young children's reasoning and naming of fractions.

Adams, G. (ed.), Proceedings of the British Society for Research into Learning Mathematics (BSRLM). Vol. 35, No. 3. Proceedings of the day conference, University of Reading, UK, November 7, 2015. London: British Society for Research into Learning Mathematics (BSRLM). 78-83 (2016).

Summary: This study investigates the effects of a teaching intervention on children's reasoning and naming of fractions in quotient, part-whole and operator situations. A pre-test, intervention and post-test design was used with 37 six-to seven-year-olds from primary schools in Braga, Portugal. The children had not been taught about fractions in school. Reasoning and labelling questions were presented in the three situations in the pre-and post-test. During teaching, each intervention group learned about fractions in only one of the three situations. Children who were taught in the quotient situation made significant progress in the reasoning and naming fractions, but did not transfer this learning to the other situations. Children taught in the part-whole or in the operator situations only learned how to label fractions, showing no progress on reasoning items. However, they used the labels in both part-whole and operator items. Thus these situations affect differently children's understanding of fractions.

Classification: F42 C32

Keywords: educational research; primary education; teaching experiments; fractions; approach; part-whole situations; quotient situations; operator situations; reasoning; naming of fractions; transfer of learning; performance improvement

<http://www.bsrlm.org.uk/IPs/ip35-3/BSRLM-IP-35-3-14.pdf>