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Teaching arithmetic and algebraic expressions.

Johnsen Høines, Marit (ed.) et al., Proceedings of the 28th international conference of the International Group for the Psychology of Mathematics Education, PME 28, Bergen, Norway, July 14–18, 2004. Bergen: Bergen University College. Part III, 121-128 (2004).

Summary: A teaching intervention study was conducted with sixth grade students to explore the interconnections between students' growing understanding of arithmetic expressions and beginning algebra. Three groups of students were chosen, with two groups receiving instruction in arithmetic and algebra, and one group in algebra without arithmetic. Students of the groups that learnt arithmetic developed a strong understanding of the concept of term and applied it to reason about equal expressions. They performed better at some questions in algebra, especially those that required a sense of the structure and meaning of the expression.

Classification: H23 F33 C33 D43 A63
Keywords: understanding of algebraic terms; arithmetic; concept formation; structure and meaning of algebraic expressions; elementary algebra; grade 6; lower secondary; empirical investigations
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