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A skeptic's guide to algebra in the early grades.

Kaput, James J. (ed.) et al., Algebra in the early grades. London: Routledge (ISBN 978-0-8058-5472-5/hbk; 978-0-8058-5473-2/pbk). Studies in Mathematical Thinking and Learning Series, xvii-xxi (2008).

From the text: Some readers may wonder whether it is wise to introduce advanced mathematical concepts and methods to young learners. They may doubt whether young children are capable of learning algebra. They may question whether the mathematics problems presented in the subsequent chapters are truly about algebra. Some may consider it unrealistic to expect teachers to fit algebra into an already bulging curriculum. Here, we address several such doubts about early algebra. Hopefully, this discussion helps the reader understand why the idea of introducing algebra in the early grades often evokes strong feelings among educators and parents. Indeed, the issues inherent to early algebra are complex, and our understanding of these issues is evolving as we explore in more detail what young children can do. We leave it to the reader to weigh the evidence provided in this book regarding these matters.

Classification: H12 D32

Keywords: early education in algebra; algebraic thinking; primary education; abstract reasoning; developmental readiness; developmental psychology; cognitive development; arithmetic; algebraic activities; concept formation; curriculum; syntactic rules of algebra; modes of representation; generalization; mathematical activities; Vygotskian view