

Issues with the Developmental Algebra Curriculum and Resulting Pedagogy

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Research in core brain physiology shows that understanding with long-term memory and recall (learning) is processed in the brain through the ubiquitous behaviors of pattern generalizing, visualizations, and most importantly, making and using connections. As such, there are four areas of concern in the current developmental algebra curriculum: thinking that practice yields understanding, stand-alone lessons, no daily use of connections, and inappropriate or no use of visualizations. In this article, the author proposes a change from the current equation-solving curriculum as the driving force to the daily use of function behaviors and function representation as the common theme. Function behaviors and function representation easily connect symbolic algebra concepts and skills to previously taught concepts and skills, and they promote the use of real-world contexts while integrating pattern generalizing, visualizations, and making and using connections.

Keywords: developmental math, functions, pattern generalization, visualizations, educational neuroscience



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