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The importance of equal sign understanding in the middle grades.

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Summary: The equal sign is perhaps the most prevalent symbol in school mathematics, and developing an understanding of it has typically been considered mathematically straightforward. In fact, after its initial introduction during students' early elementary school education, little, if any instructional time is explicitly spent on the concept in the later grades. Yet research suggests that many students at all grade levels have not developed adequate understandings of the meaning of the equal sign. Such findings are troubling with respect to students' preparation for algebra, especially given Carpenter, Franke, and Levi's (2003) contention that a "limited conception of what the equal sign means is one of the major stumbling blocks in learning algebra. Virtually all manipulations on equations require understanding that the equal sign represents a relation." This article describes middle school students' understanding of the equal sign and the relationship between their understanding and performance when solving algebraic equations. (Contains 6 figures and 1 table.) (ERIC)

Classification: H23 C33 E43

Keywords: equations; elementary algebra; middle school students; mathematical concepts; secondary school mathematics; comprehension; problem solving; symbols