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Investigating functional thinking in the elementary classroom: foundations of early algebraic reasoning.

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Summary: This paper examines the development of student functional thinking during a teaching experiment that was conducted in two classrooms with a total of 45 children whose average age was nine years and six months. The teaching comprised four lessons taught by a researcher, with a second researcher and classroom teacher acting as participant observers. These lessons were designed to enable students to build mental representations in order to explore the use of function tables by focusing on the relationship between input and output numbers with the intention of extracting the algebraic nature of the arithmetic involved. All lessons were videotaped. The results indicate that elementary students are not only capable of developing functional thinking but also of communicating their thinking both verbally and symbolically.

Classification: C32
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