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Second-graders' mathematical practices for solving fraction tasks.

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Summary: Recently, over 40 states in the United States adopted the common core state standards for mathematics (CCSSM) which include standards for content and eight standards for mathematical practices. The purpose of this study was to better understand the nature of young children's mathematical practices through an exploratory examination of the practices of a group of second-grade students engaged in several mathematical tasks focused on rational number concepts. Twenty-five second-grade students completed three fraction tasks in structured clinical interviews. The interviews and student work were analyzed using an interpretational analysis to examine the data for constructs, themes, and patterns that were useful in explaining children's mathematical practices. The results reveal that children used a variety of mathematical practices during the interviews to respond to the mathematical problems presented. Children's mathematical practices were both a product that they used to solve the mathematical situations, and a process that was developing during the interactions of the interview. The findings lead to new insights about how mathematical practices develop and what promotes their development.

Classification: F42 C32 D52

Keywords: children's mathematical practices; rational number concepts; fraction tasks