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Lamberg, Teruni; Wiest, Lynda R.

Dividing fractions using an area model: a look at in-service teachers' understanding.

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Summary: The paper reports an investigation into how a group of elementary and middle school teachers collectively attempted to solve and understand a fraction division problem using an area model. Solving the word problem required that teachers determine how many two-thirds fit into three-fourths. The teachers struggled to conceptualise fraction division, to meaningfully connect it to the area model, and to interpret the fraction remainder. Developing such understanding was facilitated by allowing sufficient time for group discussion and collective thinking, supported by use of visual representation. During this process, it was important for the teachers to identify an appropriate unit of measure and referent unit, and to make sense of these in relation to each other and to the problem. The importance of connecting concepts to procedures and to comprehending and using other fraction models (linear, set) is noted.

Classification: F49 F99 C39

Keywords: fraction; division; area model; word problems; in-service teachers

<http://www.merga.net.au/ojs/index.php/mted/article/view/176>