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Pre-service primary teachers' knowledge for teaching of quotitive division word problems.

Lindmeier, Anke M. (ed.) et al., Proceedings of the 37th conference of the International Group for the Psychology of Mathematics Education "Mathematics learning across the life span", PME 37, Kiel, Germany, July 28–August 2, 2013. Vol. 2. Kiel: IPN–Leibniz Institute for Science and Mathematics Education at the University of Kiel (ISBN 978-3-89088-288-8). 145-152 (2013).

Summary: The purpose of this study is to analyse pre-service teachers' specialized content knowledge of quotitive division word problems with fractions. Two tasks were solved by 84 pre-service teachers integrating both the resolution of the problems and the interpretation of primary school students' answers. Results suggest that having a common content knowledge it is not enough to analyse and interpret students' answers and errors since the activity of interpreting need the specialized content knowledge. Furthermore, results indicate that the majority of pre-service teachers' interpretations were focused on the validity of the method and that there were more pre-service teachers that identified the procedural errors than the conceptual ones. Finally, some implications for teacher training programs are given.

Classification: F49 F99 C39

Keywords: word problems; fractions; pre-service teachers; content knowledge