

ZMATH 2016d.00578

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Posing fraction problem scenarios: a comparative study of pre-service teachers and grade five learners.

Rogerson, Alan (ed.), The mathematics education for the future project. Proceedings of the 13th international conference ‘Mathematics education in a connected world’, Catania, Sicily, Italy, September 16–21, 2015. Münster: WTM-Verlag (ISBN 978-3-942197-44-1/pbk; 978-3-942197-86-1/ebook). Conference Proceedings in Mathematics Education 1, 19-25 (2015).

Summary: This research study builds on a previous study carried out in South Africa and the United States of America [the first author, *R. E. Carbone* and *P. Webb*, “Prospective primary school teachers’ attempts to pose acceptable word problems on the addition of fractions: some insights from South Africa and the United States of America”, *Afr. J. Res. Math., Sci. Technol. Educ.* 15, No. 2, 168–178 (2011; doi:10.1080/10288457.2011.10740710)] which investigates the ability of prospective primary/elementary school teachers to create relevant, realistic problem scenarios for intermediate phase/elementary learners regarding the addition of common fractions when the sum is greater than one whole. The findings of this study inspired a similar investigation with grade five learners in an urban South African school to identify possible common perceptions and misconceptions of pre-service teachers ($n = 44$) and grade five learners ($n = 52$). The data generated suggest that three common perceptions and misconceptions exist in the writing of relevant problem scenarios by both pre-service teachers and grade five learners.

Classification: F43 F49 C33 C39 D73 D79

Keywords: realistic problem scenarios; common fractions; perceptions; misconceptions; pre-service teachers