

ZMATH 2011b.00598

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The structure of prospective kindergarten teachers' proportional reasoning.

J. Math. Teach. Educ. 14, No. 2, Special Issue: Windows to early childhood mathematics teacher education, 149-169 (2011).

Summary: Lamon (Teaching fractions and ratios for understanding. Essential content knowledge and instructional strategies for teachers, 2nd edn. Lawrence Erlbaum Associates, Mahwah, 2005) claimed that the development of proportional reasoning relies on various kinds of understanding and thinking processes. The critical components suggested were individuals' understanding of the rational number subconstructs, unitizing, quantities and covariance, relative thinking, measurement and "reasoning up and down". In this study, we empirically tested a theoretical model based on the one suggested by Lamon (loc. cit), as well as an extended model which included an additional component of solving missing value proportional problems. Data were collected from 238 prospective kindergarten teachers. To a great extent, the data provided support for the extended model. These findings allow us to make some first speculations regarding the knowledge that prospective kindergarten teachers possess in regard to proportional reasoning and the types of processes that might be emphasized during their education.

Classification: F89 C39 B51

Keywords: proportional reasoning; prospective preschool teachers; empirical investigations; educational research

doi:10.1007/s10857-011-9175-y