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The mathematical content knowledge and attitudes of New Zealand pre-service primary teachers.

Math. Teach. Educ. Dev. 14, No. 2, 28-49 (2012).

Summary: This paper presents data on the mathematical content knowledge and attitudes of pre-service primary teacher education students. The assessment consisted of nine tasks, including 2-digit computations and proportional reasoning. Students rated their liking for mathematics at three time points: primary, secondary, and when assessed. Fewer than half the students liked mathematics, currently. Those with positive attitudes tended to perform well on mathematics tasks, but some low scorers were positive and some high scorers were negative about mathematics. Most students used algorithmic procedures to solve problems and several consistent misconceptions were identified. Performance was noticeably poor on adding common fractions and converting fractions to percentages using knowledge of common factors. The implications of these findings for Initial Teacher Education (ITE) providers are presented.

Classification: C29 C39 D39 D79

Keywords: pedagogical content knowledge; preservice teacher education; student teacher attitudes; elementary school mathematics; mathematical aptitude; misconceptions; prior learning; achievement gains; undergraduate students; graduate students; knowledge base for teaching

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