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Why defining the construct matters: an examination of teacher knowledge using different lenses on one assessment.

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Summary: What does it mean to align an assessment to the domain of interest? In this paper, we analyze teachers' performance on the Learning Mathematics for Teaching assessment of Proportional Reasoning. Using a mixture Rasch model, we analyze their performance on the entire assessment, then on two different subsets of items from the original assessment. We consider the affordances of different conceptualizations of the domain and consider the implications of the domain definition on the claims we can make about teacher performance. We use a single assessment to illustrate the differences in results that can arise based on the ways in which the domain of interest is conceptualized. Suggestions for test development are provided.

Classification: D69 D39

Keywords: teacher education; professional knowledge; subject content knowledge; educational diagnosis; teacher knowledge assessment; assessment development; domain of interest; conceptualization; mixture Rasch model; proportional reasoning; professional development; test development
<http://www.math.unt.edu/tmme/Vol13no1and2/05-Orrill-Cohen.pdf>