

DEVELOPING A PROBLEM SOLVING MEASURE FOR GRADE 4

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PROBLEM STATEMENT AND RELATED LITERATURE

Problem solving is central to mathematics learning (NCTM, 2014). Assessments are needed that appropriately measure students' problem-solving performance. More importantly, assessments must be grounded in robust validity evidence that justifies their interpretations and outcomes (AERA et al., 2014). Thus, measures that are grounded in validity evidence are warranted for use by practitioners and scholars. The purpose of this presentation is to convey validity evidence for a new measure titled Problem-Solving Measure for grade four (PSM4). The research question is: What validity evidence supports PSM4 administration? The PSM4 is one assessment within the previously published PSM series designed for elementary and middle grades students. Problems are grounded in Schoenfeld's (2011) framework and rely upon Verschaffel et al. (1999) perspective that word problems be open, complex, and realistic. The mathematics in the problems is tied to USA grade-level content and practice standards (CCSSI, 2010).

Method, Results, and Future Research

This study uses the *Standards* (AERA et al., 2014) as a basis for describing validity evidence for the PSM4. The five sources of validity evidence described in the *Standards* are test content, response processes, relations to other variables, internal structure, and consequences from testing. A design science approach guided assessment development and data collection. This study used quantitative and qualitative data collection and analysis techniques to explore evidence for the PSM4. Taken collectively, evidence supports use of the PSM4 among practitioners and scholars.

References

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