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A research-inspired and computer-guided clinical interview for mathematics assessment: introduction, reliability and validity.

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Summary: Formative assessment involves the gathering of information that can guide the teaching of individual or groups of children. This approach requires a sound understanding of children's thinking and learning, as well as an effective method for gaining the information. We propose that formative assessment should employ a version of clinical interviewing, a flexible method for gaining insight into children's thinking, and should be based on contemporary research. This paper describes a computer-guided form of Piaget's clinical interview method which we developed for the formative assessment of young children's mathematics learning. The research-based interview examines key aspects of mathematical thinking, such as meaningful strategies and concepts. This paper examines the reliability and validity of the method for Kindergarten through Grade 3. Findings indicate that the clinical interview measures the same kinds of overall mathematics constructs as do standardized tests but, unlike standard tests, provides detailed information concerning mathematical thinking. The computer-guided format makes the method easy to administer and, we argue, is invaluable for education.

Classification: D61 D62 U71 U72

Keywords: formative assessment; early childhood education; reliability; validity

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