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Developing and evaluating a kindergarten to third grade CBM mathematics assessment.

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Summary: The present study examined the technical adequacy of curriculum-based measurement (CBM) measure of early numeracy for kindergarten through third grade students. Our CBM measures were developed to reflect broad and theoretically derived categories of mathematical thinking: quick retrieval, written computation, and number sense. The mastery of these three categories comprises the larger construct of numeracy proficiency for the early elementary grades. Approximately 300 students in each grade (Kindergarten to Grade 3) were administered a standardized measure, WJ-III, and the following timed measures: kindergarten – counting, missing number, number identification, quantity discrimination; Grade 1 – counting, missing number, next number, number facts, number identification, quantity discrimination; Grades 2 and 3 – computation, concepts, missing number, number facts, quantity discrimination. *Alpha* and test-retest reliabilities were assessed, and construct validity and criterion validity were examined for the CBM measures developed in the study. Overall, the results indicated that the measures were reliable and showed evidence to support both construct and concurrent validity. Methods to improve the measures are discussed.

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