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**Evaluation of a learning trajectory for length in the early years.**

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Summary: Measurement is a critical component of mathematics education, but research on the learning and teaching of measurement is limited, especially compared to topics such as number and operations. To contribute to the establishment of a research base for instruction in measurement, we evaluated and refined a previously developed learning trajectory in early length measurement, focusing on the developmental progressions that provide cognitive accounts of the development of children's strategic and conceptual knowledge of measure. Findings generally supported the developmental progression, in that children reliably moved through the levels of thinking in that progression. For example, they passed through a level in which they measured length by placing multiple units or attempting to iterate a unit, sometimes leaving gaps between units. However, findings also suggested several refinements to the developmental progression, including the nature and placement of indirect length comparison in the developmental progression and the role of vocabulary, which was an important facilitator of learning for some, but not all, children.

*Classification:* C31 C32 F71 F72

*Keywords:* measurement; length; learning trajectory; developmental progressions; hierarchic interactionism; longitudinal studies

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