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Provoking the construction of a structure for coordinating $n + 1$ levels of units.

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Summary: In considering mathematical development across multiple domains, researchers have implicated the critical role of an individual's ability to produce and coordinate units. Here, we describe a theoretically grounded instructional approach for promoting growth in units coordination. Our approach is informed by neuroscience, as well as existing research on units coordination. We present promising results from implementing our approach in a 10-week teaching experiment with a sixth-grade student named Cody. We demonstrate how, over the course of the 14 teaching sessions, Cody progressed from activity involving the coordination of two levels of units, to activity involving the coordination of three levels of units.

Classification: C33 C83 F33 H23

Keywords: cognitive psychology; middle school; neo-Piagetian theory; educational neuroscience; units coordination

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