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Source Retrieval Cues Facilitate Transfer in Fraction Learning

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Abstract

Analogies to familiar numbers can help children project the magnitudes of numbers they rarely (if ever) encounter. Unfortunately, children may require source retrieval cues to revive their inert knowledge. Here we investigated effects of these cues in the context of estimating the location of fractions on number lines. During training, thirty-nine 10-year-olds learned to map the location of integers and fractions on equivalent number lines (e.g., $3:8::3/8:1$), and at post-test were given the same fraction number-line problems either with (Cue group) or without (No Cue group) a cue to remember the location of integers. Accuracy of estimates increased from pretest to training for both groups. However, children who received source retrieval cues during post-test improved their accuracy more than children in the No Cue group. Our results provide further evidence that even when sources and targets have been successfully mapped failures of source retrieval can prevent analogical inference.