The source and type of feedback influence children's mathematics performance

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Abstract

Research in cognitive science indicates that the effects of corrective feedback are powerful, but quite variable. Stemming from the Feedback Intervention Theory, we tested two features of feedback that may influence the learner's attention to the self and ultimately their performance. In this zoom-based experiment, 6 to 8 year old children (N = 102) completed an online learning activity focused on solving mathematical equivalence problems. During the learning activity, children were assigned to different conditions which varied both feedback source (person vs. computer) and feedback type (correct-answer vs. correct-answer+verification). Feedback source was found to affect accuracy, where computer-based feedback resulted in higher accuracy compared to person-based feedback. Additionally, feedback type was found to affect strategy variability. Low knowledge children were more likely to use a variety of different strategies when they received correct-answer only feedback, while high knowledge children were less affected by the presence or absence of verification cues.

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