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Role of Prior Knowledge in Feedback Timing

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Abstract

Several individual differences have been suggested to explain neutral or negative effects of feedback on learning (Hattie & Timperley, 2007; Kluger & DeNisi, 1996). Specifically, Fyfe and colleagues (2016) have found that feedback has been useful for students with low prior knowledge, but has mixed effects on students with high prior knowledge. In contrast to prior studies that measure prior knowledge, here we manipulate students' propensity to transfer from knowledge of a more familiar concept to a more difficult one using knowledge activation (Sidney, 2020). Undergraduates (N = 138) were randomly assigned in a 3 (delayed, immediate, or no feedback) x 2 (activate prior knowledge or not) between-subjects design. Both activating prior knowledge and providing immediate feedback enhanced performance during learning trials. On a no-feedback posttest, feedback effects were moderated by knowledge activation. Importantly, combining knowledge activation with immediate feedback had a large positive impact on performance.