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How time spent on feedback influences learning and gaze in categorization training

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Abstract

Feedback is essential for many kinds of learning, but the cognitive processes involved in learning from feedback are unclear. In models of category learning, feedback is typically treated as an error signal without a temporal component. We conducted two simple category learning experiments that manipulated the duration of feedback (1s vs. 9s) and investigated the effect on learning and gaze. In two different category structures, participants in the longer feedback condition learned faster. The analysis of gaze data showed several findings. Participants in the 9s condition had longer fixations, and in both conditions and experiments, participants spent far more time looking at stimulus features than the feedback. Overall, our findings provide empirical support for the idea that feedback processes, and temporal factors more generally, have much to tell us about how people learn categories.