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Benefits of active learning for teachers

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Abstract

Good teachers and good active learners share the ability to generate samples (examples or queries, respectively) that are informative in light of current knowledge. In line with this, the current experiment found that active learners outperformed yoked passive learners in a subsequent category teaching task. The learning task was replicated from Markant and Gurekis (2014) and included a manipulation of category structure (Rule-based or Information-Integration). Participants (N = 40 dyads) first learned how to categorize stimuli defined along two continuous perceptual features, and their subjective classification boundaries were inferred from categorization tests. During teaching, participants generated a small, fixed number of examples to teach the categorization boundary to an imagined learner. Improvements in teaching due to active learning went beyond what could be explained by better categorization performance prior to teaching, and example selection was modulated by participants' degree of uncertainty about the boundary to-be-taught.