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Investigating the impacts of an immersive learning mode and graded feedback on category learning

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Abstract

Categorization research often employs traditional artificial classification learning (TACL) and a foundational category structure based on family resemblance (FR). In TACL trials, each training item is presented for classification with arbitrary labels followed by corrective feedback. In the FR structure, categories are organized around two opposite configurations (i.e., prototypes) of a handful of binary features such that each category consists of its prototype plus the off-by-one variations. Despite convention, there is reason to question whether these choices align with natural category processes and structures. We employ a richer instantiation of FR using prototypes in opposite corners of a 2D space with four levels of variation. In addition, we investigate variations on the TACL paradigm: 1) situating classification learning within an immersive, dynamic, goal-driven setting; and 2) altering the core task to predicting a graded level of category membership (akin to typicality). Results provide implications for theoretical accounts of categorization.

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