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Conceptual Integration and Semantic Relational Processing as Study Tasks to Promote Cued-Recall of Word Pairs

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Abstract

A basic question in the study of human cognition concerns the ability to encode and retrieve associations between pairs of meaningful elements such as words. We employed a standard version of a paired-associate learning task using novel, arbitrary word pairs (restricted to nouns) presented one pair at a time during study without direct warning of a memory test to follow. After a distraction task, participants were provided with a cued-recall task which provided either the first or second word from each of the studied pairings. This paradigm was used to investigate the impact of two study tasks inspired by research in the domain of higher-order cognition. Specifically, we proposed a benefit in cued recall due to either: 1) articulating a conceptual combination of the two provided concepts, i.e., generating a novel integrative concept that might be referenced by the noun-noun pairing; or 2) articulating a specific proposition about how the two provided concepts could interact by fulfilling the roles of a semantic relationship. To illustrate, a pair of words like ”cloth” and ”donkey” might be integrated via conceptual combination to refer to a stuffed animal or via relational linking to indicate that a cloth could be draped over a donkey. The control condition in the experimental design was a simple imagery-based support task to allow assessment of the impact of the novel support tasks above and beyond the role of imagery. The results show that both study tasks dramatically improve memory performance.

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