

Studying with optimized multiple-choice distractors equates recall-based studying

Myrthe Braam

University of Groningen, Groningen, Netherlands

Thomas Wilschut

University of Groningen, Groningen, Netherlands

Maarten van der Velde

MemoryLab, Groningen, Netherlands

Hedderik van Rijn

University of Groningen, Groningen, Netherlands

Abstract

While students typically prefer multiple-choice learning, open-answer questions have frequently been found to be more effective, attributed to their role in promoting recall as opposed to recognition. Here, we examine increasing the effectiveness of multiple-choice testing as a learning tool, by using foils (incorrect answer options) that are similar in meaning and word form to the correct answer. Participants studied French-Dutch vocabulary in three learning conditions: one with unrelated foils, another with open questions, and a third using multiple choice questions with related foils. The related foils were either semantically or orthographically similar to the correct answer. The results showed no significant difference between the open questions and the related foils condition, indicating comparable effectiveness. Replicating earlier studies, the unrelated foils condition yielded significantly poorer learning outcomes. Overall, these results suggest that multiple-choice testing can be a viable alternative to open answer testing when utilizing related foils.