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Hancock-Niemic, Mary A.; Lin, Lijia; Atkinson, Robert K.; Renkl, Alexander; Wittwer, Joerg

Example-based learning: exploring the use of matrices and problem variability.

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Summary: The purpose of the study was to investigate the efficacy of using faded worked examples presented in matrices with problem structure variability to enhance learners' ability to recognize the underlying structure of the problems. Specifically, this study compared the effects of matrix-format versus linear-format faded worked examples combined with equivalent problem structure versus contrast problem structure on learning. A total of 113 undergraduate students recruited from campus were randomly assigned to one of the four experimental conditions formed by a 2×2 factorial design. The results revealed three significant interactions on accuracy of anticipations, near transfer and medium transfer, suggesting that matrices foster learning when they contain contrast-structure problems but not with equivalent-structure problems.

Classification: D45 U75 U55 K55
Keywords: worked example; matrix; problem structure; fading example; example-based instruction
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