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Generating multiple answers for a word problem with insufficient information.

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Summary: In mathematics learning, word problems always include sufficient information; however, in everyday situations, people sometimes encounter problems with insufficient information. Previous studies suggest that people cannot successfully handle word problems with insufficient information because they believe a word problem has only one answer and avoid considering multiple answers. The present study examined whether university students ($n = 98$) can develop the skill to generate multiple answers for word problems with insufficient information. A new learning method, reduced insufficiency learning, was designed and tested to examine whether the participants can learn to generate multiple answers for a set of target problems (high level of insufficiency) after exposure to an exercise problem (low insufficiency level). Results of this study suggest that people can develop the skill to handle insufficient problems with higher levels of insufficiency by means of reduced insufficiency learning.

Classification: F95 D55

Keywords: word problems; multiple answers; insufficient information; belief; problem solving strategies
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