

Does Visualization facilitate Insight?
A Mixed-Methods Investigation of the Relevance of Context in Insight Problem-Solving
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Abstract

This study investigates the impact of explicit pictorial presentation of insight problems on participants' problem-solving abilities. For this purpose, a total of 60 post-graduate students ($M = 22$, $F = 38$) were recruited and exposed to 5 sets of control (only textual presentation of problem) and experimental conditions (both textual and pictorial presentation of problem). The results obtained indicate a statistically significant difference between the response accuracy rates of participants in control and experimental conditions $t(58) = -6.86$, $p < 0.01$. Additionally, Cohen's d was estimated at 1.77, which is a large effect based on Cohen's (1988) guidelines. These results suggest that when in the course of problem-solving an explicit hint for the use of a specific visually presented stimulus is provided, the reasoning mechanism establishes a sub goal to find a relation between this stimulus and the target problem, and that the problem-solvers' perception and reasoning faculties interact to construct a representation of the stimulus and to find elements of that description which are then applied to solve the problem.

Keywords: Insight Problem-Solving, Visual Comprehension, Dynamic Context Theory, Mental Rotation and Mental Reorganization in Problem-Solving.

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