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Using a multimedia learning tool to improve creative performance

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ABSTRACT

This study explored the effects of using computer-based multimedia learning materials on creative performance. A multimedia learning tool (MLT) was developed as part of a specific mechanical engineering subject taking into consideration appropriate load on the cognitive system for effective information and creative cognitive processing. The theoretical perspectives and design principles of Cognitive Theory of Multimedia Learning (CTML) shaped the development of the MLT. Students' creative thinking and product creativity were measured using established creativity instruments namely the Torrance Tests of Creative Thinking (TTCT) and Creative Product Semantic Scale (CPSS). For creative thinking the results showed that the MLT was instrumental for students to generate flexible and original ideas, but not fluent ideas. This was reflected through students' product creativity which showed novel and aesthetic qualities, but lacked practicality. Students' perceptions supported the MLT's partial influence especially through the use of animations. The findings suggest possible effects of dynamic learning materials on creative performance which however require further exploration.