Learning and Memory in Virtual Spaces

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Abstract

Space and context are fundamental factors in cognition which have powerful effects on learning, memory, and recall. Previous studies have shown that changes in the physical context between learning and assessment tasks can degrade recall performance. The research on virtual context effects, however, is scant, especially in the area of learning. Virtual environments are increasingly utilized in educational technology research and application without a careful understanding of space and context. This study investigated the effect of context in a virtual space on learning and memory using a between groups experiment that controlled the use of context changes and the level of immersion in the environment (2D or 3D). It contrasted two existing hypotheses explaining these effects: context-dependence and situational model updating. The results suggest an interaction between the level of immersion in the environment and whether or not a context change occurred.

Keywords: virtual spaces; context effects; learning; memory;