

Interior Design for Learners Memory Retention Enhancement through Virtual Reality

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This pilot study as a part of a larger research, sought alternatives for traditional spatial ability development exercises of interior design learners to cater to the increasing staff-student ratios. The impact of different instructional modalities on visuospatial working memory (VSWM) of interior design learners was investigated utilizing a quasi-experimental design with three groups: Physical Reality Instructional Modality (PRIM), Non-Immersive Virtual Reality Instructional Modality (NVRIM), and Immersive Virtual Reality Instructional Modality (IVRIM). The participants underwent pre-and post-tests to assess their VSWM, with a spatial ability training intervention conducted between the tests. Results show that while PRIM led to a decrease in average VSWM scores, both NVRIM and IVRIM improved VSWM performance post-intervention. The impact of NVRIM on VSWM was found to be greater than that of IVRIM and PRIM. Furthermore, all three instructional modalities improved the speed of VSWM functions. Results conclude that virtual reality instructional modalities have the potential to enhance VSWM in interior design learners more effectively than traditional physical reality modalities. However, the study acknowledges the need for further research with larger sample sizes to validate these findings and suggests potential applications of the results in design education.

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