

**COMPARING THE EFFECTIVENESS OF COMPUTER SIMULATION ON
COMPUTER MONITOR VS. VIRTUAL REALITY
AS COMMUNICATION TOOLS IN INTERIOR DESIGN**

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(ABSTRACT)

Computer simulations have developed as communication tools in interior design. The purpose of this study was to investigate the effectiveness of two types of computer simulation: passive walk-through animation of an interior design on the PC monitor and immersive walk-through of the same interior design in the CAVETM. This effectiveness was decided in terms of communicating basic visual information, such as visual forms, spatial relationships, colors, and textures.

Sixty voluntary subjects chosen from faculty, staff, and graduate students at Virginia Polytechnic Institute and State University were tested experimentally and interviewed. The interior design of the Visualization and Animation Laboratory in the Advanced Communications and Information Center, which is under construction on the Virginia Polytechnic Institute and State University, was simulated by the two types of computer simulation and shown to the participants.

This study found that the simulation in the CAVETM was more effective than that on the PC in terms of communicating information about visual forms and spatial relationships in interior design. However, the PC was more effective in communicating information about colors. In terms of textures, no difference was shown. The simulation in the CAVETM appears to have more of a three-dimensional perception and makes people feel as if they were actually present in the space. Both technologies can have a role for general introduction to interior spaces. However, people gain more information in the CAVETM simulation.

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