IMPACTS OF IMMERSIVE VIRTUAL REALITY ON THREE-DIMENSIONAL DESIGN PROCESSES: OPPORTUNITIES AND CONSTRAINTS FOR LANDSCAPE ARCHITECTURE STUDIO PEDAGOGY

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1   ABSTRACT

This study evaluates the potential of immersive virtual reality (VR) to impact the design process of students engaged in a landscape architecture studio design setting. Immersive VR has potential to increase students' understanding of three-dimensional spatial impacts while making design decisions, potentially improving their design capabilities but poses challenges as well, particularly for collaboration and larger-scale sites with significant topographic features. Following observation students' engagement with a VR-based project, a survey, questionnaire, and focus group discussion solicited feedback from study participants. Participants self-reported improved awareness of the three-dimensional spatial relationships within their designs, and an improved ability to visualize these relationships. Results suggest VR may enhance development of initial design concepts and understanding of spatial relationships. Students also reported that VR's immersive interactions significantly altered their approach to designing—and hindered their ability to communicate with others within collaborative design activities. As with many emerging technologies, VR will potentially impact landscape architecture's creative processes and will change how the discipline is taught and practiced professionally. These potential transformative impacts will provide fodder for discussion as our discipline strives to maximize VR's benefits while mitigating its challenges.

1.1   Keywords
Virtual Reality, Design Pedagogy, Technology