

Immersive Environment as an Occupant-Centric Tool for Architecture Criticism and Architectural Education

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Abstract : In recent years, developments in the field of architectural education have resulted in a shift from conventional teaching methods to alternative state-of-the-art approaches in teaching methods and strategies. Criticism in architecture has been a key player both in the profession and education, but it has been mostly offered by renowned individuals. Hence, not only students or other professionals but also critics themselves may not have the option to experience buildings and rely on available 2D materials, such as images and plans, that may not result in a holistic understanding and evaluation of buildings. On the other hand, immersive environments provide students and professionals the opportunity to experience buildings virtually and reflect their evaluation by experiencing rather than judging based on 2D materials. Therefore, the aim of this study is to compare the effect of experiencing buildings in immersive environments and 2D drawings, including images and plans, on architecture criticism and architectural education. As a result, three buildings that have parametric brick facades were studied through 2D materials and in Unreal Engine v. 24 as an immersive environment among 22 architecture students that were selected using convenient sampling and were divided into two equal groups using simple random sampling. This study used mixed methods, including quantitative and qualitative methods; the quantitative section was carried out by a questionnaire, and deep interviews were used for the qualitative section. A questionnaire was developed for measuring three constructs, including privacy regulation based on Altman's theory, the sufficiency of illuminance levels in the building, and the visual status of the view (visually appealing views based on obstructions that may have been caused by facades). Furthermore, participants had the opportunity to reflect their understanding and evaluation of the buildings in individual interviews. Accordingly, the collected data from the questionnaires were analyzed using independent t-test and descriptive analyses in IBM SPSS Statistics v. 26, and interviews were analyzed using the content analysis method. The results of the interviews showed that the participants who experienced the buildings in the immersive environment were able to have a thorough and more precise evaluation of the buildings in comparison to those who studied them through 2D materials. Moreover, the analyses of the respondents' questionnaires revealed that there were statistically significant differences between measured constructs among the two groups. The outcome of this study suggests that integrating immersive environments into the profession and architectural education as an effective and efficient tool for architecture criticism is vital since these environments allow users to have a holistic evaluation of buildings for vigorous and sound criticism.

Keywords : immersive environments, architecture criticism, architectural education, occupant-centric evaluation, pre-occupancy evaluation

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