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Investigating the Potential of VR in Language Education: A Study of Cybersickness and Presence Metrics

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Abstract : This study highlights the vital importance of assessing the Simulator Sickness Questionnaire and presence measures as virtual reality (VR) incorporation into language teaching gains popularity. To address user discomfort, which prevents efficient learning in VR environments, the measurement of SSQ becomes crucial. Additionally, evaluating presence metrics is essential to determine the level of engagement and immersion, both crucial for rich language learning experiences. This paper designs a VR-based Chinese language application and proposes a thorough test technique aimed at systematically analyzing SSQ and presence measures. Subjective tests and data analysis were carried out to highlight the significance of addressing user discomfort in VR language education. The results of this study shed light on the difficulties posed by user discomfort in VR language learning and offer insightful advice on how to improve VR language learning applications. Furthermore, the outcome of the research explores ‘VR-based language education,’ ‘inclusive language learning platforms," and "cross-cultural communication,’ highlighting the potential for VR to facilitate language learning across diverse cultural backgrounds. Overall, the analysis results contribute to the enrichment of language learning experiences in the virtual realm and underscore the need for continued exploration and improvement in this field.

Keywords : virtual reality (VR), language education, simulator sickness questionnaire, presence metrics, VR-based Chinese language education
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