

A Learning Effects Research Applied a Mobile Guide System with Augmented Reality for Education Center

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Abstract : This study designed a mobile guide system that integrates the design principles of guidance and interpretation with augmented reality (AR) as an auxiliary tool for National Taiwan Science Education Center guidance and explored the learning performance of participants who were divided into two visiting groups: AR-guided mode and non-guided mode (without carrying any auxiliary devices). The study included 96 college students as participants and employed a quasi-experimental research design. This study evaluated the learning performance of education center students aided with different guided modes, including their flow experience, activity involvement, learning effects, as well as their attitude and acceptance of using the guide systems. The results showed that (a) the AR guide promoted visitors' flow experience; (b) the AR-guidance activity involvement and flow experience having a significant positive effect; (c) most of the visitors of mobile guide system with AR elicited a positive response and acceptance attitude. These results confirm the necessity of human-computer-context interaction. Future research can continue exploring the advantages of enhanced learning effectiveness, activity involvement, and flow experience through application of the results of this study.

Keywords : augmented reality, mobile guide system, informal learning, flow experience, activity involvement

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