Inducing Flow Experience in Mobile Learning: An Experiment Using a Spanish Learning Mobile Application

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Abstract : Smartphones are ubiquitous and frequently used as learning tools, which makes the design of educational apps an important area of research. A key issue is designing apps to encourage engagement while maintaining a focus on the educational aspects of the app. Flow experience is a promising method for addressing this issue, which refers to a mental state of cognitive absorption and positive emotion. Flow experience has been shown to be associated with positive emotion and increased learning performance. Studies have shown that immediate feedback is an antecedent to Flow. This experiment investigates the effect of immediate feedback on Flow experience. An app teaching Spanish phrases was developed, and 30 participants completed both a 10min session with immediate feedback and a 10min session with delayed feedback. The app contained a task where the user assembles Spanish phrases by pressing bricks with Spanish words. Immediate feedback was implemented by incorrect bricks recoiling, while correct brick moved to form part of the finished phrase. In the delayed feedback condition, the user did not know if the bricks they pressed were correct until the phrase was complete. The level of Flow experienced by the participants was measured after each session using the Flow Short Scale. The results showed that higher levels of Flow were experienced in the immediate feedback session. It was also found that 14 of the participants indicated that the demands of the task were 'just right' in the immediate feedback session, while only one did in the delayed feedback session. These results have implications for how to design educational technology and opens up questions for how Flow experience can be used to increase performance and engagement.

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