Bridging Meaningful Play and Playful Learning - Supporting the Design Process of Gamification in Education

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INTRODUCTION
The purpose of this present research is to investigate the issues in implementation of game-based learning and gamification in education, and to design a tool for educators and game developers in the field to support design process of learning games and gamified activities in education.

Game-based learning and gamification in education has gained significant attention from researchers and practitioners since the movement of serious games has initiated in early 2000s. There have been increasing cases where entertainment game developers have worked together with educators and subject matter experts to develop serious games and designing gamification in education. It is expected that using games and game elements in educational context can assist with learning activities, engage and promote learner participation, and promote behavioral changes (Anamnsingh, 2018). Such efforts are not always successful, but rather previous researches have reported mixed results for the effectiveness of applying games and gamified activities in education (van Roy, Zaman, 2017; Tan, Neill, and Johnston-Wilder, 2018). It is also reported that there are various barriers to implement games and gamification in education such as lack of support for teachers, high development costs, and mismatch with curriculum requirements (Klopfer, Osterweil, and Salen, 2009).

For the successful implementation of game-based learning and gamification in education, Bridging meaningful play and playful learning is important aspect to consider for sustaining and extending its impact. As Gee (2005) pointed out, it is crucial to learn from good games as a model instead of games in general. However, it is often misunderstood that applying a game element alone works to make learning playful. For example, digital badge is known as a popular method of gamification in the education field along with point and leaderboard (Khalil et al, 2018). They are
structured game elements that are relatively easy to extract and apply in educational contexts. Since just displaying digital badges would not increase motivation, it is necessary to combine with engaging learning activities that make earning badges more meaningful for learners.

To avoid such misunderstanding of gamification, there are number of researches suggest principles and frameworks to assist during the design and development process. For example, researchers suggested design guidelines by integrating game design with learning theories and instructional design methods (Kapp, 2012), a design framework as a tool to support design process of educational games (Culyba, 2018), and design patterns for learning games by analyzing pedagogical and game design patterns (Plass, and Homer, 2009; Kelle, Klemke, and Specht, 2011).

Based on the findings from our investigation, we are developing a tool for educators and developers to support the design process of gamification by making use of their knowledge and expertise respectively. The tool is designed as a card game, and assists novice designers by pointing at important factors to consider during the design process such as target domain, target learners, problem situation, guiding questions, learning elements, and game elements/mechanics. Preliminary results from our research will be presented to share the findings to discuss our future research. Our research intended to provide useful knowledge and guidelines for practitioners and developers who are interested in game-based learning and gamification in education.

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BIBLIOGRAPHY


