

Educators Can Create Effective Learning Games! Evaluating the Effectiveness of Educator-Authored Serious Games

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ABSTRACT

Over the past few decades, numerous studies have investigated the effects of Serious Games (SGs) in terms of several learning outcomes such as skills and knowledge acquisition, as well as cognitive (i.e., higher order thinking skills) and affective outcomes (i.e., changes in emotional aspects). Boyle et al. (2016), Clark et al. (2016), and De Freitas (2018) have reviewed multiple studies on the use of SGs, with the conclusion that SGs can significantly improve these various aspects compared to learning with non-game activities. Games in these studies however are typically designed by game professionals and for use in a controlled environment. The complexity of game development and their associated tools means that experts well-versed in this field are needed. Reducing, or even eliminating dependency on these experts would improve SG creation in terms of reducing time, effort, accessibility, and financial constraints. This would undoubtedly allow non-game developers such as educators to be more actively involved in the creation of SGs. Interest in this area has only started receiving attention recently, where several SG-specific authoring tools have been proposed. We have recently developed ARQS Educator-Oriented Authoring tool, a tool that allows educators to develop games without requiring skills in game development. Formative (Ahmad and Law, 2021) and summative usability studies (Ahmad and Law, 2022) have been conducted and showed that the tool is suitable for educators. The outcome produced by educators through the tool should also be evaluated to identify their effectiveness.

JEL Codes:

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