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Book Review

Gaming Innovations in Higher Education:
Emerging Research and Opportunities

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ABSTRACT

Since the 1980s, there has been growing interest in exploring the potential of gaming use in education. The advancements in information and communication technologies (ICT) is a driving force for further development. As learners are generally more familiar with game elements and mechanisms, it would be advisable for educators and researchers to become more knowledgeable about this subject. Gaming Innovations in Higher Education: Emerging Research and Opportunities is well suited to meet this rising demand. The book starts off with an introduction of the gamification model, learning theories and mapping within gamification, then introduces an educator model and ends with the uses of augmented reality (AR) and virtual reality (VR) in higher education.

KEYWORDS

Emerging Research, Gaming Innovations, Higher Education

Since the 1980s, there has been growing interest in exploring the potential of gaming use in education. The advancements in information and communication technologies (ICT) is a driving force for further development (Alsawaier, 2018; Calabor, Mora, & Moya, 2019; Crookall, 2010). As learners are generally more familiar with game elements and mechanisms, it would be advisable for educators and researchers to become more knowledgeable about this subject. "Gaming Innovations in Higher Education: Emerging Research and Opportunities" is well suited to meet this rising demand. The book starts off with an introduction of the gamification model, learning theories and mapping within gamification, then introduces an educator model and ends with the uses of augmented reality (AR) and virtual reality (VR) in higher education.

The concept of integrating gamification into education is getting more and more attention, as it should. Through the use of computer technology and elements which make a game interesting, such as reward system and instant feedback, educators can stimulate students' motivation, and thereby

elevate their performance and self-competence. In chapter 1, a number of theories are introduced by the author and then integrated into the construction of the author's gamification model. With a clear focus on components of the model: social gaming elements, social team work, non-gaming environments, gaming mechanics and engagement through feedback loops and motivation, readers gradually understand the mechanism of this model, and gain a better understanding before the next chapter which builds on this foundation.

In order to identify the factors that would affect the learning process of individual learners, and discover ways to merge game designs and mechanics, in the second chapter, the author carefully incorporates numerous studies and research findings and sums up five learning theories within gamification. The theoretical models include community of practice, connectivism, connective knowledge, community-centered approaches and personalization, which are examples of how the learning experience of the individual within a community may be improved by using immersive technologies. All of these are part of the foundation for the merging pedagogy theoretical framework (MPTF) presented by the author.

Throughout chapter 3, the author guides readers from a tutor's perspective to look into the issues regarding mapping the mechanics of gamification. To expand on the theories presented in the previous chapters, the author emphasizes the functions of community and importance of social settings when designing learning systems. By providing joy-filled learning tasks, sharing achievements and difficulties within the teams, plus incorporating the mechanism of competition between individuals or teams, reward systems and effective feedback, learner motivation can be enhanced and learning experience can be improved; therefore, behaviors change over time. Offering the learner an environment that is enriched with enjoyable activities and interaction with other learners, and applying scaffold learning instructions to dovetail individual needs is beneficial to both leaners and educators.

Chapter 4 presents a model called Educator Model (EM), which aims to assist educators in harnessing the flexibility of gamification to create a beneficial pathway for both educators and learners. The model is illustrated graphically for clearer understanding of its mechanism. Educators could implement the model from the initial stage of course design, tailor tasks and assessments to the characteristics of gamification, influence learners' behavior in an enjoyable learning environment, and build up their knowledge and skills through socialization.

When it comes to the outcomes of technology integrated with pedagogy, the applications of AR and VR would be the ideal example. Through The man-machine interaction in the form of AR and VR mixed with the concepts of gamification and educational purposes, things that normally would not be achieved without the help of imagination, can turn regular learning material into a fascinating learning experience. In the final chapter, the author refers to various studies to support the use of gamification theories along with AR/VR technologies. The benefits of using such mechanisms, for both educators and learners, are evident throughout the text. In addition to bright side on current AR/VR implication in different domains, the author also briefly notes some issues that may hinder learner experience when using those implications, such as the uncanny valley effect, spatial disorient and other factors. The book shares ideas on how to promote students' motivation in higher education, and some possible directions are provided for educators to rethink their strategies and enhance their curriculum

This book provides a sound foundation for educators, game researchers and people who want to explore the concepts of gamification and the implementation of those theories, as well as realization of what current technologies can offer. With clearly expressed structure and comprehensible wording, readers can smoothly follow the author's logic, gain essential background knowledge on major topics, which may eventually lead to creation of enjoyable and effective learning activities. The tone of this book is set to publicize the advantages of using gaming mechanism and technology in education, and this encourages educators or administrators to follow author's guide to overcome the obstacles which lie ahead when carrying out such innovations in educational institutions.

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