Chapter 7

Implications of Gamification and Virtual Reality in Higher Education

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ABSTRACT

Gamification and virtual reality are becoming more common in higher education, leading to more research toward this topic and its applications. Following this new trend, this chapter identifies and proposes practical applications and future directions for gamification and virtual reality in higher education environments. Authors contribute with precise inputs how to create student engagement and motivation towards learning and academic activities. Future research avenues in these domains are given. Authors draw conclusions about future changes in the educational experiences through gamification and virtual reality.

INTRODUCTION

The use of game design elements in non-game contexts (Deterding et al., 2011)

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is a growing trend in the literature in different settings, from finance to marketing or education (e.g., Azmi et al., 2017; Dicheva et al., 2015). Specifically, higher education is among one of the non-game contexts where the implementation and use of gamification techniques are evolving (e.g., Faghihi et al., 2014).

Virtual reality (VR) and gamification - the application of game-based techniques in non-game environments - have been the subject of a growing interest from scholars and practitioners regarding its application in several areas, namely in Higher Education. A growing number of researches concerning virtual reality and gamification and its applications to this area have been published since 2012. Following this pathway, this research aims to identify and propose practical applications and future directions for gamification and virtual reality in higher education environments. Through this research, authors also pretend to contribute with precise inputs on how to create student’s engagement and motivation towards their learning and academic activities. Moreover, this research also pretends to put in evidence that an enormous path is still to be uncovered in these domains. Specifically, understanding which way virtual reality and gamification may act as contributors to creating stimuli that enhance students’ experiences from the learning environments and lead to influence decision-making to actual and prospective students’ intentions.

The remainder of the chapter is structured as follows: The next section is devoted to the theoretical background, addressing the literature on gamification and learning games. Then this chapter focus on gamification and virtual reality concepts, detailing what does it mean. The following section is devoted to examples of the use of gamification with virtual reality. Finally, future research directions and conclusion are presented.

BACKGROUND

Gamification is a growing trend in research (Caponetto, Earp, and Ott, 2014; Erenli, 2013; Kasurinen and Knutas, 2017) as well as in educational settings (Azmi, Ahmad, Iahad, and Yusof, 2017; Dicheva, Dichev, Agre, and Angelova, 2015). Despite lacking a standard definition of gamification in literature, in this chapter, the authors adopted the definition of Deterding, Dixon, Khaled, and Nacke (2011) that Gamification is “the use of game design elements in non-game contexts”.

Higher education is among one of those “non-game contexts” where the adoption of gamification techniques are evolving in an ascending trend through distinct educational settings (e.g., Faghihi et al., 2014; Galbis-Córdova, Martí-Parreño, and Currás-Pérez, 2017).
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