Do Skills and Challenge Affect Perceived Learning? Mediating Role of Engagement

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ABSTRACT

Gamification, the usage of elements relating to game design to non-game activities, has gained considerable attention from academia and industry. It is uncertain as to whether students require skills and challenges to engage them in the game for enhancing their learning. Thus, the objective of this article is to examine the mediating role of engagement in the relationship between skill and perceived learning as well as between challenge and perceived learning in game-based learning environments. Data was gathered using a survey of Player Unknown’s Battlegrounds (PUBG) players. A total of 233 young Indian players participated in the study. The results showed that engagement fully mediates the relationship between skill and perceived learning as well as between challenge and perceived learning. This study contributes to the literature on game-based learning by providing evidence for the educational video games to be one of the effective means of learning. Results of the present study imply that the educational game designers can design challenging games to engage the students.

KEYWORDS

Challenge, Engagement, Gamification, Learning, Skill, Video Game

INTRODUCTION

The reasons for students leaving college include some importunate educational problems such as behavioral and emotional difficulties, under-achievement in their examinations and problems in learning which they face in college (Jonassen & Blondal, 2005). The college dropout phenomenon has been theorized as a plodding process of college students’ disengagement and alienation. This disengagement leads to late coming to the class, classes, not attending classes regularly, suspension from the college, and college-switching (Bridgeland et al., 2006). Prior research suggests that even graduates face alienation, get bored, and have a disconnect with the college (Larson & Richards, 1991). In particular, such students are characterized as jaded, waiting for the class to get over, and disconnected from the learning process (Chipchase et al., 2017). The reason for the dropout is that students are expected to manage isolation, new physical environment, time, and family to achieve their higher educational goals (Gillett-Swan, 2017). To excel in higher education, students find it stressful to always complete the task which is given to them by their faculty members in an efficient manner and within the deadline (Urban, 2016). With 25% of the students in the 35 Organization for Economic Co-operation and Development (OECD) countries classified as having low participation (Drigas et al., 2014; Willms, 2003), student disengagement (Chipchase et al., 2017) is both an international and a national problem.

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According to the prior studies one of the strategies for increasing engagement among students in a significant way is introducing games in the curriculum (Lee et al., 2012; Steinkeuher et al., 2012; Ditizio, 2018; Huang, Hew, & Lo, 2018; Granic, Lobel, & Engels, 2014; Hamari et al., 2014; Csikszentmihalyi, Rathunde, & Whalen, 1997; Custodero, 2002). However, while incorporating games in an educational setting, it is important to understand the type of game to be included and the possibility of students getting motivated to play that game (Tang & Zhang, 2018). Students play a game if it satisfies and motivates them to complete a task which they would have otherwise avoided (Warmelink et al., 2018; Przybyliski, Rigby, & Ryan, 2010). Since games are considered to be a part of social and cultural development, they also permeate aspects of day to day life including studies (Koivisto & Hamari, 2019; Rapp et al., 2018). Gamification refers to the application of game design elements to non-game activities (Nah et al., 2014, p.1). It is often used to induce experiences that are similar in gaming and also to create and increase engagement with the help of these experiences (Nah et al., 2014). The benefits of gamification include gaming applications designed as per the users’ enjoyment requirements and also for that particular consequence such as improving student performance (Huotari & Hamari, 2017).

Those who are young and are within the age of 25 years expand their identities in light of adaptable communities (Akkerman et al., 2009; Annetta et al., 2009). In such scenarios, latest technologies play a vital role as youth prefer to be connected with their friends, entail social interaction, require immediate responses, and appreciate experiential learning (Annetta et al., 2009). For youth, the sphere of life is the experiential world (Shernoff et al., 2014). Apparently, any innovation in the college curriculum has an impact on the meaningfulness and attractiveness of college learning. If teaching style in a college is innovative, the students do not feel isolated and disconnected in the process of learning. Some interesting situations may promote stimulation, engagement, and excitement in the learning process which results into meaningful learning. Incorporating games in education appears to be the best idea which combines fun with meaningful learning (Rickard & Oblinger, 2003; Shaffer et al., 2005).

Students learn solving complex problems in an educational game setting. The problems which are there within a game logically start-off easy and then progressively become more intricate as the skills of the students develop. Students are provoked to learn in parts as learning is positioned and occurs through a process of probing, reflecting, and hypothesizing upon the simulated world which is incorporated in the game. Apart from that, the goals need to be clear and information needs to be sufficiently shared with the students at the right time so that they reach their goal.

Despite mounting attention from practitioners and researchers, the process of engagement into the game leading to learning is unclear. In particular, it is still uncertain if students need any pre-required skill or motivation to play the game so that their performance increases. Given that gamification has become a popular teaching pedagogy in higher education, understanding the motivational path of gamification would make the students learn well. While most prior studies on gamification have been carried out in the developed countries (e.g. Koivisto & Hamari, 2019; Rapp et al., 2018), the research in the developing countries is scarce (Huang, Hew, & Lo, 2018; Granic, Lobel, & Engels, 2014; Hamari et al., 2014). Therefore, it is important to examine the process of student learning in developing countries owing to their distinctive environments and particularly their differences in terms of the quality of infrastructure and market size (Gosen et al., 2005). This study focuses on examining the motivational factors for perceived learning in India, a developing country because of its competitive environment (Acharya & Gupta, 2016a; Acharya & Gupta, 2016b; Gupta & Acharya, 2018). In particular, Indian students are subjected to high pressure and have to keep updating their skills on a regular basis to outperform.

The authors of this paper have used the concept of flow as a technique to investigate game activities of the students and evaluate the effects of those activities on their perceived learning. Thus, the objective of this paper is to examine the mediating role of engagement in the relationship between
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