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Motivation, Engagement and Learning through Digital Games

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ABSTRACT

Digital games can be powerful learning environments because they encourage active learning and participation within “affinity groups” (Gee, 2004). However, the use of games in formal educational environments is not always successful (O’Neil et al., 2005). There is a need to update existing theories of motivation and engagement in order to take recent game-related developments into account. Understanding the links between why people play games, what keeps them engaged in this process, and what they learn as a result could have a significant impact on how people value and use games for learning. This paper examines key research that relates to motivation, engagement, and informal learning through digital games, in order to highlight the need for empirical studies which examine the activities that occur in and around everyday gaming practice.

Keywords: Computer Games, Digital Games, Engagement, Game-Based Learning, Gaming Capital, Informal Learning, Involvement, Motivation, Video Games

INTRODUCTION

“Press Start,” the familiar command appearing to players before they can begin to play almost any game. If faced with this screen, the choice to play has already been made, so can this really be the start of the game-play experience? Why this game? Why now? Why keep playing and what does all this have to do with learning? This paper raises the concern that there is much about the player experience yet to be understood and seeks to further explore the questions just raised by discussing motivation and engagement in relation to the informal learning that occurs through playing digital games.

The paper begins by considering research relating to games and learning, and argues for an empirical examination of the context and socio-cultural factors around every-day gameplaying, in order to provide greater insight into the effectiveness of learning through games. The concepts of gaming capital and paratexts (Consalvo, 2007) are highlighted as being of potential use in such analysis. The paper goes

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on to look at traditional conceptualisations of motivation and engagement in the research literature, in the light of new kinds of games, interfaces, online interactions and new audiences of players. It is suggested that work by Calleja (2007a, 2007b) on involvement offers the potential for a fuller account of how contextual aspects relate to the gaming experience. Consideration is also given to the suggestion of Boyle and Connolly (2008) that reversal theory can be helpful in understanding certain emotional flips that people can experience whilst playing games.

A number of methodological challenges are raised, and it is suggested that a multi-method case study research approach—including interviews, surveys, game-play recordings and physiological measures—could help address some methodological limitations of previous research. The paper concludes with an illustration of the kind of research that could be useful.

GAMES: FORMAL AND INFORMAL LEARNING

Academic interest in gaming and learning seems to stem from the fact that digital games are considered to be effective motivational tools and learning environments (Kirriemuir & McFarlane, 2004; Mitchell & Savill-Smith, 2004; de Freitas, 2006). Games can promote “active” and “critical learning” both within the game and the “affinity groups” of players that surround specific titles and genres (Gee, 2004). However, the literature often fails to explore the potential links between what motivates players to play a game (motivation), what keeps them engaged in the game (engagement) and the learning that occurs as a result of game-play and participation in gaming practices (informal learning). This is important because when games are used within formal educational environments, the links can break down. For instance, de Castell and Jenson (2003) argue that educational games have “not been hugely successful at taking up and exploiting the resources digital technologies make available for learning” (p. 656) since there is often only a tenuous connection between the game-play and the learning tasks within the game. Furthermore, learners do not all agree that they find games intrinsically motivating within an educational context (Whitton, 2007) and it has also been found that when commercial games are used to support learning in educational environments, the games used do not always appeal to all students (Squire, 2005).

In the area of games and learning, a distinction is often made between formal and informal learning. This distinction usually refers to the context in which the learning takes place, as opposed to whether the game in question has been explicitly designed for educational purposes. There are several different ways to classify informal learning but Vavoula (2005) presents a typology which focuses on defining formal and informal learning in terms of control over the processes and goals of learning, and also with respect to the intentionality of the learner. For instance, when using a commercial game in the classroom, the teacher would have explicitly prescribed both the process and goals, while the student is there for the purpose of learning; so this can be seen as an example of intentional, formal learning. However, when the focus of research is on the learning that occurs whilst someone plays a game in their spare time at home during game-play—usually a voluntary, leisure time activity—this could be classified as focusing on unintentional, informal learning.

In relation to the use of games for formal learning purposes, O’Neil et al. (2005) reviewed the literature and found a total of 19 studies that met their criteria for review. The studies included had to be peer-reviewed published journal articles which used adult participants and also contained some quantitative or qualitative information about the effectiveness of the games used. O’Neil and colleagues concluded that “the evidence of potential is striking, but the empirical evidence for effectiveness of games as learning environments is scant” (O’Neil et al., 2005, p. 468). However, the authors note that learning outcomes seem to depend on how instructional strategies around the game are
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