

Chapter 14

An Examination of Pre-Service Teachers' Attitudes towards Game-Based Learning

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ABSTRACT

This chapter examined pre-service teachers' attitudes toward game-based learning. Research participants included 30 pre-service teachers at a Midwest public university. The research participants took an online course in which game elements such as online mini games as either warm-up or wrap-up activities were integrated. After the course, the researchers analyzed participants' login data and collected their responses to an open online survey. The research results showed that students enjoyed playing games integrated into the course. They spent time playing the games and found them enjoyable and useful. The participants valued the usefulness of integrating games into the classroom. Playing games helped them focus on the topic and review what they had learned from the lecture. They also indicated that they would integrate games into their teaching.

INTRODUCTION

The use of digital or video games in educational settings has appropriately garnered the attention of individuals in education and also in the game industry (Garris, Ahlers, & Driskell, 2002; Squire, 2003; Shaffer, Squire, Halverson, & Gee, 2005; Van Eck, 2006; Moreno-Ger, Burgos, Martinez-Ortiz, Sierra, & Fernández-Manjón, 2008). In November of 2014, the researchers found 2538

articles using the term “game- based learning” or “games in the classroom” when searching the *Chronicle of Higher Education*. That is an increase of more than 2400 from the approximately 100 that Epper, Derryberry, & Jackson (2012) found a mere two years earlier. Epper, Derryberry, & Jackson noted that adoption and institutional implementation of game-based learning is still in the experimental stage in American higher education. In an effort to examine the literature

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surrounding the use of game-based learning in online learning settings, the researchers found that empirical research related to this topic is fairly limited, especially in regards to pre-service teachers. To this end, via this research project, the researchers aim to examine pre-service teachers' attitudes toward game-based learning by finding the answers to the following research questions.

1. Do pre-service teachers enjoy playing games integrated in the course?
2. What do they think about the roles of games in education?
3. Will they integrate games into their future teaching?

TERMINOLOGY

It is important that the reader understands the definition of game-based learning as the researchers are using it. Salter notes that "when a game is designed with a primary purpose other than entertainment, it is generally labeled a serious game" (Salter, 2011, para. 3) while Dickey (2011) explained "the notion of 'game' as an ambiguous term used to describe structured recreational activities. Typically, components of games include goals, rules, challenges and some form of interaction" (p. 458). Dickey continues the delineation of the term with: while individual definitions may vary, games are primarily recreational, including challenges or some form of stimulation, and typically, in varying degrees, have some type of victory/loss conditions. In contrast, serious games are games designed with a purpose beyond that of recreation or entertainment. Serious games encompass games designed to educate, train, incite activism, and inform. (p. 458)

Differentiating worthwhile educational games from mere entertainment-style games, Hirumi, Appelman, Rieber, & Van Eck (2010) described them as "'serious' and 'educational' [video] games..." (p 27). Torrente, Moreno-Ger, Martinez-Ortiz, &

Fernandez-Manjon, (2009) suggested that "game-based learning is a very broad field, with varied initiatives and heterogeneous approaches" (p. 362). For this study, the term game-based learning will include all of the following: serious games, instructional games, instructional video games, instructional computer games, structuring learning experiences in a gaming environment, and education games when used in an educational environment. The definition of game-based learning used in this study is "instructional content presented to learners in a game-based learning environment or activity with the intention of facilitating learning and increasing the knowledge base of the learners."

REVIEW OF LITERATURE

I agree with Rousseau, that the aim of education should be, to teach us rather how to think, than what to think; rather to improve our minds so as to enable us to think for ourselves, than to load the memory with the thoughts of other men (Beattie, 1809, pp. 330-331).

If we teach today as we taught yesterday, we rob our children of tomorrow (Dewey, as cited in Peake, 2010, p. 4).

Both Drs. Dewey and Beattie would likely be distressed if they were to visit schools in the early part of this 21st century. In many schools, they would find rote memorization occurring in a variety of disciplines in the quest to succeed on standardized testing. Due to the requirements of *No Child Left Behind* (NCLB), many teachers have shifted their focus from teaching learners how to learn to scoring well on standardized testing.

Dewey would not be alone in his concern. Holmes (2009) stated "... there is such great pressure for students to receive a certain score or show the amount of growth required that curriculum has become too narrow and focusing only on getting through the test and less on real learning" (p. 7).

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