Present or Play: The Effect of Serious Gaming on Demonstrated Behaviour

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ABSTRACT

Serious gaming is one of the newest developments in the world of learning and is gaining increasing attention within the business environment. Although many practitioners claim that serious gaming has more impact on demonstrated behaviour of trainees when compared to common presentations, little evidence exists. In this paper, the authors present an experiment that builds a foundation for proving that serious gaming is more effective than presentations in ensuring people demonstrate a specific set of behaviours within a training setting. The experiment involved addressing the same content a number of times by either holding a presentation or playing a serious game. Consequently, participants’ behaviour was measured within a business simulation environment. Results demonstrate that experiencing failure is an important element of learning and that most learning occurs during a game debriefing when participants reflect on their experiences. The importance of learning elements like goal setting, feedback and challenge is demonstrated as well.

Keywords: Behaviour, Business Training, Learning, Presentation, Serious Gaming

DOI: 10.4018/ijgbl.2015040104
INTRODUCTION

“While most games appear to be effective in terms of creating an environment where students stay on task longer while engaged in the process of playing, little empirical evidence exists that demonstrates games providing any more positive, systematic outcomes for content learning than traditional teaching methods” (Gunter, Kenny, & Vick, 2007).

The focus of this research is on serious games, generally described as games that are used for the purposes of learning and training, regardless of whether they are making use of computer technology and video graphics or not (Crookall, 2011). During the last couple of years serious gaming gained an increasing amount of attention which could be explained by two developments. Firstly, there are large developments in Information Technology stimulating the thought of practitioners that “new form of training, as close as possible to business situations (…), needs to be organised in order to keep up with the speed of changes” (Pannese & Carlesi, 2007). Secondly, there is an increasing belief that learners need to be engaged more extensively and must be positioned more centrally within the learning experience.

In this paper we concentrate on the second development and present an experiment that partly proves that a serious game is more effective than a presentation. In the pages to follow we first provide some background on serious gaming and learning and their impact on behaviour. We then report on the experiment, its results, and the analysis conducted with six experts. Finally, we conclude and discuss some possible limitations of the approach.

BACKGROUND

As a start, there was a need to establish a theoretical foundation for this research based on serious gaming and learning literature. The serious gaming literature would enhance the understanding of what is currently known about this topic and help explain the relevance of this research, while the learning literature would help explain different views on learning and serve as a theoretical basis for comparing a serious game with a presentation.

As a first step, the relevant and available serious gaming literature was identified. A systematic literature review was conducted according to the method of Wolfswinkel, Furtmüller, and Wilderom (2011), using the ‘Social Sciences & Humanities’ database of Scopus. Search terms used were games or gaming or serious games or serious gaming. Additional search was done on learning or behaviour or knowledge or training.

In total 433 articles were found. After filtering out doubles, reading abstracts and full text articles, and applying forward and backward citation, 12 articles remained in total. The analysis of these 12 articles has been used as the core of this chapter.

To gain a better understanding on how a learning effect can be created by serious gaming, the learning elements
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