Chapter 42
Beyond the Technological Dimension of Edutainment:
An Evaluation Framework with a Curricular Perspective

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ABSTRACT

In this chapter, the authors propose a framework for carrying out an analysis of edutainment products from a curricular perspective. Although this framework has been developed for undertaking a curricular evaluation of edutainment, the chapter also incorporates some indicators that allow for evaluation of its playful dimension. Firstly, the different fields of research that support the framework are presented, such as the studies on: commercial video games, serious games and edutainment, and curricular materials (e.g. textbooks). This framework comprises four dimensions of analysis − formal, playful, curricular, and ethical − organized as an observation grid of edutainment products and a series of guidelines to use it. In each dimension the authors take into account a variable number of units of analysis, indicators, and evidences. Finally, the chapter offers some general conclusions to the evaluation process of edutainment, focusing on its appropriateness to specific curricular subjects and contexts.

INTRODUCTION

Over the past few years, the researches on the use of serious games and edutainment in the teaching and learning process have been focused on how effective the technological devices are in

order to facilitate learning acquisition in different educational contexts (Lane et al., 2008; Gillispie, Martin, & Parker, 2009; Kebritchi, Hirumi & Bai, 2010; Brom, Sisler & Slavík, 2010; Yang & Chen, 2010; Annetta, Cheng, & Holmes, 2010, etc.). Most of these research studies suggest that its use enhances pupils' learning, sometimes giving an excessively optimist vision of the possibilities

of video games in different educational realities. These studies show the video games potentiality as technological interfaces for learning. However they usually do not discuss how to articulate their use with the different curricular elements (aims, objectives, contents, activities, etc.), tending to oversimplify the debate on the curricular dimension of edutainment. We recommend that before adopting edutainment products as a learning resource they should be evaluated in their formal (technological and visual), playful, ethical and curricular dimensions.

In this chapter we present a holistic framework of edutainment analysis and evaluation which values different dimensions, such as the formal, curricular, playful and ethical ones, considering several units of analysis, indicators and evidences for each one of the dimensions. The three theoretical vectors that steer our analysis framework have been the research on commercial video games, on edutainment and serious games, and finally, the literature generated on the design and evaluation of curricular materials. We begin this chapter with the literature review. Then we present our framework for the analysis and evaluation of edutainment for curricular use and the guidelines to its use. We end with some final remarks about the framework and its importance to the educational use of edutainment.

Work Method

For the purpose of this research, we carried out a bibliographic search in three international sources: Biblioteca do Conhecimento Online[1], Google Scholar and the database EdiTLib Digital Library for Information Technology and Education. We directed our review of literature to commercial games, edutainment and serious games and curricular materials, with focus on papers with a component of product evaluation, published between 2008 and 2010.

This process led us to conclude that while there were already some assessment tools (Gunter,

Kenny & Vick, 2008, Fu, Su & Yu, 2009; Neville, 2010) with a focus on educational gaming, they did not provide analysis criteria to facilitate their integration into different curricular educational settings. Our perspective, reinforced by the literature review about evaluation of resources and didactical media, is that edutainment, for curricular, classroom or school use, must be evaluated taking into account the context in which it will be used. Therefore, early in the framework development process we found necessary to define a broad evaluation framework collecting contributions from research literature in the three main areas already mentioned. This review of literature allowed us to identify critical aspects in evaluation of edutainment and to build our framework.

RESEARCH ON COMMERCIAL VIDEO GAMES

Some studies have pointed to the relevance of commercial video games as cultural devices in society nowadays (Rodriguez, 2002). These cultural devices have now become part of the so-called parallel curriculum (Giroux, 2001). It also appears that when young persons approach these devices they do so without any kind of intermediary who helps them question the cultural messages transmitted in the video games. This could result in a process of broadening and consolidation of the messages and thoughts transmitted. In fact, in a recent study developed in Spain it has been demonstrated that two thirds of teenagers habitually play these games alone and when they do play accompanied, they generally do so with persons from their peer group and not with an adult (Tabernero, Aranda & Sánchez-Navarro, 2010).

One of the lines of research that has led to a considerable amount of research work is that aimed at analyzing the effects of violent video games on the behaviour of the players. Within this line we find results that we could classify in

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