Chapter 43
A Rating Tool for Sharing Experiences with Serious Games

Maurice Hendrix
The University of Northampton, UK

Per Backlund
University of Skövde, Sweden

Boris Vampula
National Education and Teacher Training Agency, Croatia

ABSTRACT

The potential of Computer Games for non-entertainment purposes, such as education, is well established. A wide variety of games have been developed for the educational market, covering subjects such as mathematics and languages. However, while a growing industry developing educational games exist, the practical uptake in schools is not as high as one would expect, based on current evidence of their effectiveness. The EduGameLab project investigates causes and solutions to the relatively low level of uptake in European schools. This paper describes a rating tool for sharing experiences about educational games among educators and parents, developed in the EduGameLab project. The ambition is that sharing knowledge about how games can be used in practice will stimulate practical use and acceptance. The development of this tool is based on a metadata schema for formally describing serious games and experiences with these games.

INTRODUCTION

The use of computer games in education has grown over the years and the potential of educational games to enhance efficacy (Knight et al., 2010) and motivation (Norman & Spohrer, 1996) over traditional learning methods is increasingly being recognized (Conati, 2002). A wide variety of games has been developed and there is solid evidence that these can be effective and fun learning materials (Backlund & Hendrix, 2013). There has not been nearly as much research into the actual practical application in classrooms, but there are clear indications that it lags behind (Baek, 2008; Berg Marklund, 2013). Reasons behind this can vary from language and curriculum localization

DOI: 10.4018/978-1-4666-8200-9.ch043

needs in different countries to teachers being unfamiliar with the concept or simply not having an easy and convenient way to find suitable games and to figure out how to use them. Parents could ask their children what games they would like to play, however this may not work for all age groups and children are unlikely to be aware of the more specialized educational games unless they have played them before.

A clearer picture of the actual practical use is thus needed. Many methodologies have been proposed for evaluating individual games and established methodologies such as Technology Acceptance Model (TAM) have been applied to serious games. While technology acceptance is clearly a prerequisite for practical use, merely technology acceptance of a Serious Game is not sufficient. In addition it is also not sufficient to evaluate just one game. Therefore, within the EduGameLab project (http://www.edugamelab.org), we conducted a small scale study among teachers in Croatia. Furthermore, a survey was also conducted during a number of training sessions for school teachers in France, and Macedonia. As a new EU member state, the Human Development index (Anand & Sen, 1994) of Croatia is quite high. With an index of 0.805 Croatia was ranked 47th in 2012 (http://countryeconomy.com/hdi/croatia) and presents an interesting mix of being a new addition to the EU, yet being quite developed. This means that at least from a developmental point of view the situation in Croatia can be seen as somewhat representative for many other countries in a similar situation.

Teachers face growing pressures from both administrators and society to use technology (such as games) in the classroom (Gibson & Oberg, 2004). They can feel this as an unwanted extra pressure, especially if they don't know how to go about doing this. In discussions with teacher organizations in the EduGameLab project, it was felt that being able to find suitable games was a problem.

According to the parents' organizations involved in the project, parents wanting to introduce something educational in the form of a game face a similar problem: a large number of games exist but there is no easy way to find which ones are educational and suitable for their children and their specific needs. Therefore we built a tool for sharing experiences with Serious Games, aimed at parents and teachers.

When it comes to the children which these educational games are intended for, fun is probably the most important factor. They aren't very likely to want to play an educational game unless it's entertaining and thus fun will have a large impact on how parents and teachers will rate the experience with a game.

Various standards have been established for describing educational content (Paramythis & Loidl-Reisinger, 2003) and formalized by standardization bodies such as the IEEE and the IMS Global Learning Consortium. There is a movement towards describing learning content as learning objects (McGreal, 2004), which contain one single learning objective. These standards however lack both key technical aspects, such as the target platform, as well as key descriptive aspects of games, such as the intended age group or game genre and are thus not sufficient to describe educational games. In order to remedy this situation, we have previously introduced a metadata schema for describing serious games (Hendrix et al., 2012), for integration with the IEEE LOM (Committee, 2001) standard. As games often combine multiple learning objectives they can be used in various situations with diverse purposes, for example with different groups of learners or even to teach different topics. Hence it was necessary to include descriptions of experiences of using these games in particular contexts in the metadata schema.

During the development of this metadata schema it became clear, that simply including these descriptions of experiences alone was not enough. An effective way of searching for games and their