Is there a Place for Casual Games in Teaching and Learning?  
The Snakes and Ladders Case

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ABSTRACT

Currently casual games feature as the most dynamically developing section of the videogames industry and compared to the more complicated and technologically advanced hardcore games, are characterized by simple rules and gameplay, do not require long time commitment or special skills on the part of the player. They also have comparatively low production and distribution costs on the part of the producer. This paper investigates the potential of using casual games for student assessment using an educational variation of the widely known game of Snakes and Ladders, implemented for this purpose. The game was received positively by students, as well as teachers participating in its evaluation leading to the conclusion that casual games with the ease and flexibility they offer provide interesting potential for deployment in educational settings.

Keywords: Case Study, Casual Games, Game-Based Assessment, Interviews, Moodle, User Testing

INTRODUCTION AND FIELD BACKGROUND

For years, playing games, even without connection to a specific educational content has been considered one of the fundamental forms of learning (Huizinga, 1949) and is therefore not surprising that games are closely linked to intrinsic educational experiences. Game based learning typically requires at some degree that the student understands the game mechanics and rules and thus before getting involved with the learning process itself, the student must learn how to play the game first (Peirce & Wade, 2010). In the case of casual games (also known as ‘games for the rest of us’) this requirement does not apply, as the simple and familiar mechanism of the game itself is usually well known long before its transition to the electronic medium (i.e., games like Snakes and Ladders, Crossword puzzles or Hangman),

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allowing the player to play almost immediately, bypassing the initial stage of learning the game. Furthermore, casual games provide a set of other characteristics making them an interesting and practical choice for educational applications aiming either at imparting knowledge and skills development, or evaluation of the knowledge acquired. Although lacking the technologically advanced elements of the typical modern videogames with three-dimensional reconstructions, the high quality graphics, realistic animation, photorealism in scenery and high fidelity sound, and despite the fact that casual games will always be looked down to by most hardcore players as being extremely simplistic, rather boring and technologically outdated, they can actually offer quite practical options for many educational scenarios of everyday life. These ‘simple’ (or ‘mini’ games, as also quoted) do not impose demanding requirements in terms of available software and hardware, do not require high processing power or specialized graphics cards. For the player, casual games do not demand long-term and undistracted engagement, they address all player ages, they can be easily constructed even by teachers or students and shared.

Such games are a very good alternative to conventional printed quizzes typically used in the classroom and students treat them more positively (Hudson & Bristow, 2006; Papastergiou, 2009; Desrochers, Pusateri, & Fink, 2007). Especially in cases of schools and households that do not have sophisticated IT equipment and broadband network access, the simple and undemanding casual games offer a highly affordable solution. Taking also into account the flexibility they provide in terms of distribution, which can be either offline or online, in social network platforms, on mobile devices, or even interactive TV. Causal games are the most versatile type of videogames (Dai, Daloukas, Rigou, & Sirmakessis, 2011).

This paper discusses the notion and the special features of casual games, depicts their evolution and presents indicative examples of casual games used in educational settings. The question that constitutes the main subject of study is the efficiency of casual games in student assessment. To this end, the casual game Snakes and Ladders, one of the most widespread and simple games, has been implemented combining HTML and JavaScript. The game was connected with the Moodle LMS (Learning Management System) platform, so as to allow for fast and easy creation of new games using questions and glossary terms already stored in Moodle. The game was tested by four groups of students (58 in total), 14 to 17 years old who were supervised by four teachers who also took part in respective interview sessions to provide their qualitative feedback after the end of the tests and their experience from using the game generation mechanism inside Moodle. The paper concludes by presenting and commenting on the main findings of the study.

**CASUAL GAMES, CASUAL PLAYERS AND CASUAL GAMES INDUSTRY**

Learning can take place in two settings: (i) in a formal learning environment (i.e., school, university) or a non-formal one (i.e., as any form of organized, systematic educational activity curried out outside the framework of a formal systems, such as seminars, vocational training programs, etc.) and (ii) in an informal learning environment (at home, with friends, at leisure time, while waiting for the bus, or in a queue, etc.) (Bradburne, 2001; La Belle, 1982; Fordham, 1993).

At first, special-purpose (educational) electronic games were integrated in the school curriculum. This attempt led to the development of the so-called edutainment games, which in the majority of cases failed to attract and maintain student attention thus failing to accomplish their ‘mission’ (Buckinham & Scanlon, 2002; Egenfeldt-Nielsen, 2005; Egenfeldt-Nielsen, 2007). Shortly after this initial stage researchers and teachers turned their attention to popular commercial videogames such as Sim City, Championship Manager, Brain Teasing Games, Age of Empires, City Trader, etc. which were
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