Integrating Serious Games in the Educational Experience of Students with Intellectual Disabilities: Towards a Playful and Integrative Model

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ABSTRACT

The purpose of this paper is to present a series of observations made by researchers and educators on the integration of serious games in the educational experience of users with intellectual disabilities (ID). Data were gathered from four different studies and different games were used, in order to identify a successful model of games based learning application. Moreover, results that highlight the motivational importance of playful integration towards the promotion of self determination in students with ID, will be presented. According to the authors’ findings, special education can be benefited from the successful integration of digital games in the educational scenario, creating a safe and personalized educational environment for the students, as well as a valuable motivational tool for the educator - especially when the educator takes a threefold role, able to support a hybrid model of digital and non digital play. Trying to assist the educational efforts of special education teachers, the authors will present the results of a series of case studies and applications, the role of the educator, as well as practical considerations that resulted in the sketch of a model of playful game-based learning integration.

Keywords: Games Based Teaching, Intellectual Disability (ID), Motivation, Role of the Educator, Self-Determination, Serious Games, Special Education

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GAMES, SERIOUS GAMES, MOTIVATION AND INTELLECTUAL DISABILITY

For many decades, the common attitude towards the motivational abilities of students with ID has been to consider these students as unable to approach the typical reasoning and for many decades the main focus regarding motivation, was extrinsic motivation, thus rewards or punishment. However, according to Switztky (1995), researchers have demonstrated over the past years that the efficiency of students with ID is the result of the interaction between personality and internal-intrinsic motivation and sometimes the differences between students with ID and without ID of the same age are actually based on the lack of motivation and experience.

The need of generating new motivational strategies and learning methods in special education is constant and digital games provide a motivational tool with a potential to enrich the learning process. Moreover, according to studies, digital games help to improve social relationships, raise the communication level, introduce new skills and learning strategies, as well as augment the intrinsic motivation of the user (Griffiths, 2002; Green & Bavelier, 2007).

Besides the long established importance of gameplay as a privileged framework for learning and socialization, modern digital games enjoy a number of additional features. According to studies, digital games implicitly include many educational theories and their qualities, such as their enhanced capability to simulate real-world and everyday-life situations in a straightforward fashion, as well as their ability to attract the player’s engagement through augmented playability mechanisms and balanced game feedback (Saridaki et al., 2009). They offer the students challenges and rewards that increase interest and result in further skill development (Sardone & Devlin-Scherer, 2009). Additionally, qualities such as promotion of equality along with acceptance of differences, motivation through challenge and absence of punishment in the case or errors have been present in recent studies about the usage of games as an educational tool (Pivec, 2007; Griffiths, 2002).

All these features introduce digital games as a promising learning tool, in both formal and informal settings of education. However, what has not been documented is the integrating attempts of the educators, as well as their thoughts regarding serious game application in real classroom settings where they are responsible to integrate serious games with their educational scenario, while their own prior gaming experience might not be adequate. Until recently, gaming had been used in the educational environment almost solely for recreational purposes or purely as an extrinsic reinforcement.

In many occasions, special education teachers embrace change and new technological tools much easier, due to the specific needs of their pupils, including needs for playful educational scenarios, simulations, repeat of the information, as well as the need for personalization and adaptivity. However, practical implications, lack of guidance and poor game design make it difficult to create alternative strategies that implement serious games in the curriculum and educators become sceptical towards using games in their educational scenarios (McFarlane et al., 2002; Saridaki et al., 2009).

REPORTS FROM FINDINGS

In a period of four years we have had the opportunity to observe (in four different studies) the application of serious games in classrooms and daily centers for students with mild and moderate intellectual disabilities.

- **Epinoisi Project:** The first study was conducted during the EPINOISI R&D project l on 2007 that has been implemented by the Laboratory of New Technologies in Communication, Education and the Mass Media of the Faculty of Communication and Mass Media Studies of the University of Athens. The objective was to realize a
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