Chapter 3 Digital Game Design Tutorial for Use in the Basic School: A Pedagogical Proposal

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ABSTRACT

The students of the twenty-first century are digital natives, presenting a nonlinear way of learning. The school, on the other hand, still keeps a sequential teaching structure. In order to approach the school of the students' reality, digital games can be an important educational tool. This can be done not only using educational games, but also by the creation of games. There are applications and software available online that allow the creation of games in a simple and accessible way. This process of building games enables students to mobilize various fields of knowledge and provide digital literacy, with the development of critical capacity. This chapter presents the theoretical foundations that justify the use of games in education, and a pedagogical proposal based on the construction of games, as well as tools that can be used to build digital games.

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INTRODUCTION

The emergence of computers and internet contributed to promote democratisation of access to information and knowledge. However, this evolution of technologies has not been accompanied by a change in the current educational practices in the school. Students, digital natives (Prensky, 2001), when using the Internet, can access a variety of informations simultaneously, in a medium where all types of media converge. In this way, they developed a non-linear way of learning in clear opposition to the sequential curriculum that is developed in the school (Prensky, 2012).

Games have been a way used by the school to unite fun and education. It was from the New School movement that teaching pedagogies emerged, valuing the use of games in the classroom. Initially, it was employed as a form of relaxation of the proper educational activities and, later, as a natural form of teaching, since the child is intrinsically linked to the playful (Brougère, 1998). The digital games industry has grown so much that it is surpassing even the film industry (GEDIGames, 2014). Games have become more complex and creative (Mattar, 2010). If in the beginning the games evolved from culture (backgammon, checkers, chess), undergoing changes and adaptations according to the context in which they were used, from the 1960s onwards, games of authorship appeared, created by an author or by a team. The emergence of digital games has further contributed to the increase of complexity and the enhancement of creativity (Brougère, 2015). It has been a while since researchers in the field of education have realized the potential of digital games in the teaching and learning processes. João Mattar, for example, points out that the students learn from digital games many things that are not taught in school, such as teamwork, dealing with error, exploring and searching for resources (Mattar, 2010). According to a survey performed by Cetic - Regional Center of Studies for the Development of the Information Society, NIC.br, only 31% of the teachers surveyed in Brazil developed activities by using computers, the internet and educational games with the students, and 52% of them employed lecture-base courses using the computer and the internet (CGI.br/NIC.br, 2016). This is, therefore, a resource that is still little explored. There are several ways to work with games in the classroom. The games can be used as a resource for learning in certain content or for stimulating digital and media literacy (Buckingham, 2010). Beside playing games, students can also build them. Game design can be employed as a way of learning, in which students construct, adapt, analyze or modify games (Salem and Zimmerman, 2012a). Among game development methodologies, we highlight the interative design, which is focus on playtests and prototyping. During the playtests, the player's experience is take as the base for design decisions. After building an initial prototype, it is tested, evaluated and improved. Then the game is played again, in a cyclical and interative process, where the feedback allows refining the project (Rogers, 2013).

In the internet there are many free game development tools. In this chapter, we focus in one of then, Twine (Klimas, 2009), which is useful for beginner use in the classroom, due to its simplicity. Using hiperlinks, Twine allows to create non-linear, interative histories, which look like the book series style. Finally, to illustrate the process of game development, we created and present in this chapter a tutorial with the Twine tool.

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