

Chapter 3.15

Developing Enjoyable Second Language Learning Software Tools: A Computer Game Paradigm

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ABSTRACT

This chapter attempts to examine computer game theories—ludology and narratology—that explain computer games as play activities and storytelling media. Founded on this theoretical explanation, a game model that incorporates gameplay and narratives is presented. From the model, two aspects of learning in the game environment are identified: gameplay-oriented and narrative-oriented. It is believed that playing computer games involves at least one of these types of learning; thus, this game's nature can be used in designing engaging educational software. In addition, based on Malone's theoretical framework on motivational heuristics, there are two methods of applying computer games in language learning: extrinsic

and intrinsic, depending on the integration of game designs and learning materials. Then, two cases of language-learning games are scrutinized, using the game model, in order to demonstrate the use of computer games in language learning.

INTRODUCTION

In one of his most influential texts about computer games, *The Art of Computer Game Design*, Chris Crawford (1982) states that schools, but not games, are the untested fad and violator of tradition in education. Game playing is a vital educational function for any creature capable of learning. Hence, games are the most ancient and time-honored vehicle for education. Crawford

explores the reasons for people playing games and asserts that the fundamental motivation of game playing is to learn. He also cites an example to support his view by observing the behavior of lion cubs near their mother: the cubs crouch in the grass, creeping slowly toward a butterfly and pouncing on it. The beasts are apparently playing some sort of game and having fun. However, the game is also how lions learn to hunt their prey without being injured. They are learning by doing, with minimum risks. This observation is true not only for animals. Since the dawn of human history, games have been used in the teaching and learning process. Board games, for example, are believed to be the earliest games, and they were battle simulations designed to instruct the young (Murray, 1978).

The ability of computer games to spark interest among players can hardly be denied, and some educators have started to see the capability of these highly engaging games. People play games voluntarily, without asking for external rewards. Besides, the use of computer games in learning is parallel with Piaget's constructivism, in which knowledge is constructed instead of being transmitted. A lot of game-based learning projects have been carried out with an emphasis on this pedagogical epistemology. Nevertheless, most of these projects are centered in science education and mathematics. Not much theoretical work has been done on language learning, although computer games have long been used in this area. This is due to the fact that computer games are too varied and intricate to indicate a clear function in language education. Furthermore, what counts as a game is rather loosely defined. Therefore, a proper study of computer game theories would throw light upon this issue.

This chapter is structured as follows: First, we review the theoretical parts of computer games, which include ludology and narratology. Then, a theoretical model of game is proposed. The next section explains two kinds of learning that occur when playing computer games based on the

model. We outline two methods of integrating game designs with language learning. Next, an analysis of two cases of language-learning games is presented. Then, we discuss the future direction of this study; and the final section concludes the chapter.

THEORETICAL REVIEW ON GAMING

Although the use of computer games in learning is gaining attention among educators, there is still a lack of theoretical understanding of the game itself in most studies. Recent literature reveals that the research of computer games falls into two major principles: ludology and narratology. Ludology focuses on the study of computer games as play and game activities, while narratology focuses on the study of computer games as stories. The views between ludologists and narratologists are generally contradictory; the former argues that the pleasure of playing games lies in the gameplay, while the latter treats narrative as the fundamental enjoyment players are experiencing during the play session. In computer games, gameplay is referred to as activities conducted within a framework of agreed rules that directly or indirectly contribute to achieving goals (Lindley, 2002). A narrative is an account of something that happens to someone (Barrett, 1997). It consists of a series of events, from the background setting to the completion of the game. In other words, gameplay is the actions taken by the players, while narratives are an account of these actions. In this section, several kinds of game rules are explicated to better comprehend gameplay. The narrative mechanisms of the game are also scrutinized.

Gameplay and Ludology

The term ludology first appeared in the text of computer game research in 1999. Gonzalo Frasca (1999) points out in his paper, *Ludology Meets*

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