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## A Review On Educational Computer Games In Efl Classrooms

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### Abstract

A wealth of research reported that educational computer games have recently drawn the attention of educators and researchers as they provide effective learning environment in which to motivate students, thanks to their attractive features and entertaining aspect. The game is a well-known concept, which refers the individual to experience simulated real life situations competitively. Educational game is defined as a type of software that permits the students to learn course topics or to develop problem-solving abilities by using game format. In other words, games may be effective tools for promoting learning and facilitating to comprehend complex subject matter. It is widely believed that integration of educational computer games into modern educational system would help to resolve current learning difficulties. A plethora of educational computer games have been developed to help students become engaged in the language teaching. Educational computer games have been introduced to language learners and EFL teachers as an innovative strategy for improving the quality of language instruction. In that sense, this review study aims to explore the impact of use of educational games to language learning and teaching process from different aspects. Afterwards, necessary factors for the employment and implementing of educational games into flow of regular language course are presented. The characteristics and examples of well-designed computer games are defined. In addition, the roles of both teachers are mentioned. Lastly certain major suggestions will be made to raise the use of educational computer games in EFL classroom settings.

**Key words:** computer games; educational computer games; foreign language

### Introduction

In recent years, technological innovations and developments have made valuable contributions to every field of educational realm. The emerge of ICT have given certain significant impacts to teaching of English as a result of rapid growth of technological development and globalization. Recent improvements in Information and Communication Technologies (ICTs) have led many researchers to study computer games and their effects on student learning process. Digital game based learning may be represented as a growing field of using games in education and training of different knowledge and skills. CALL refers to any process in which a learner uses a computer and, as a result, improves his or her language (Beatty, 2003, p. 7). Contrary to CALL, digital game-based learning can be defined as any learning game on a computer or online (Prensky, 2001, p. 146). The development of

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educational games has prompted the use of computer games for educational purposes. Educational computer games have brought a new understanding to education by supporting student centered learning, enhancing student motivation and promoting learner autonomy. The learners strive to solve the problem using more than one single method or technique while playing educational games. Furthermore, learners may discover certain effective techniques or methods of solving the problems they face as they play the game. Playing games may also increase employment of metacognitive strategies, critical thinking, problem solving, making deduction, and some other higher order skills that are required in language learning. Educationalists and methodologists propose that educational computer games as an effective and innovative supplementing tool increase motivation, promotes autonomy and increases long-term retention, makes learning fun and effortless. In that sense, a well-designed game should be employed and integrated into language course syllabus and teaching practices appropriately by EFL teachers. Based on these assumptions, this study aims to shed light on the contribution of educational computer games to EFL context.

### **Games-based foreign language learning**

Meyer (2013) points out that the relationship between language learning and gaming is based on communicative approach. Namely, the social aspect of language learners' interaction with others in the target language and the use of authentic learning materials for learning. The emergence of language-based interaction in computer games signifies the need of adequate linguistic and sociolinguistic competences in successful game play (Ang and Zaphiris, 2008, p. 18). If games are generally seen as a framework for providing a meaningful context for language acquisition then games should be understood as significant models for the design of educational material for language teaching and learning (Sorensen and Meyer, 2007, p. 561). In relation to language teaching and learning games will have to be understood as conceptual frameworks that both 'contain' knowledge and ask learners to participate in creating knowledge and performing expertise in protected linguistic environments (Sorensen and Meyer, 2007, p. 565). Additionally, game-based perspectives require the application of digital games that are explicitly designed for pedagogical purposes and objectives (Reinhardt and Sykes, 2012, p. 2).

Educational games are effective tools for learning because they offer students a hypothetical environment in which they can explore alternative decisions without the risk of failure. Thought and action are combined into purposeful behavior to accomplish a determined goal. "Playing games teaches students how to strategize, to consider alternatives, and to think flexibly" (Martinson and Chu 2008, p. 478). Sorensen and Meyer, (2007) assert that educational computer games provide students communicative and socio-cognitive abilities in language learning. In other words, students use target language to meet their communicative needs, information gathering and gaming in informal environment whereas they use languages to fulfill the goal of the activities in classroom settings. Sorensen and Meyer, (2007) also claim that the role of technology in language learning has been moving away from an association with drills, grammatical explanations and translation tests, into more communicative based contexts where task-based, project-based and content-based approaches are integrated with technologies. Meyer (2013) states that as children are familiar with English words, phrases and sounds before they start learning in school and they may associate game activities with this knowledge easier. According to Peterson (2011), from the sociocultural perspective, gaming requires collaborative social interaction in the target language as players assist each other in game tasks and activities. In addition, when playing

games, students need to overcome obstacles in order to achieve victory, and they do so by learning whatever is required to overcome the obstacle for instance finding a solution to a puzzle, searching for a weakness in an enemy, providing a particular set of hand-eye coordination skills. In a similar vein, when studying in a class, the students learn the information that will be required on the test. Therefore, victory in the game may be seen as analogous to success on the test, and learning to overcome obstacles is seen as analogous to learning the material required by the curriculum. While playing well-designed digital games, users must come to understand game rules, and solve problems. In many digital based games users are required to interact collaboratively with fellow players in order to advance in the game and achieve meaningful goals (Adams, 2007).

### **Characteristics of well-designed games**

As it is clearly evident, digital games offer a remarkable and beneficial venue for language development. Well-designed games are engaging and can aid learning because of numerous features they have (Prensky 2001: 106): they have rules and clear goals, they are interactive and adaptive, they give feedback, they are fun and they tell us a story. The goals should motivate the player to attain and to be creative with problem-solving, as often games may be won in more different ways than one. Interactivity refers to the player is not passive, but an active as the main part of the gaming and possibly learning experience, and adaptivity means that the player will have enough challenge to enjoy beating the game, but will not be frustrated with too much difficulty. Feedback is one of the significant benefits of computers and games in learning. Feedback in games is immediate and memorable, and it can be given through different senses: visually, audially or motionally. Even dying in a game is not discouraging, as the player will know what he or she did wrong and then try and try again. Because the games are so fun, the player will not mind playing the same spot again for hours until having learned the correct action, and the stories that games tell make the players become emotionally attached to them, and they find and discover new skills or strategies to use how the game ends (Eskelinen, 2012).

The game includes six essential parameters as follows: 1. Rules: games are rule-based. 2. Outcome: Games have variable, quantifiable outcomes. 3. Value: That the different potential outcomes of the game are assigned different values, some being positive, some being negative. 4. Effort: That the player invests effort in order to influence the outcome. 5. Player's attachment: That the players are attached to the outcomes of the game in the sense that a player will be the winner and "happy" if a positive outcome happens, and loser and "unhappy" if a negative outcome happens 6. Negotiable consequences: The same game can be played with or without real-life consequences (Ang and Zaphiris, 2008, p. 10).

Similarly, Franciosi (2011, p .16) explains computer games in terms of goals, feedback and skill/difficulty balance. Goals are concrete and explicit. Outcomes are quantifiable and objective. As for feedback, it is given immediate and unambiguous feedback about progress. In terms of skill/difficulty balance, the difficulty increases gradually as skill increases. Furthermore, many games can adapt in real time to match players' skill level and the players may choose their own level of difficulty.

## Contributions of educational computer games to language learning

The implementation of computer games in EFL classrooms is currently discussed as an outstanding topic in academic studies. Meyer (2013) proposes that games provide contextualized input in language learning and provide challenge and competition to engage young learners in self-directed learning. Additionally, Franciosi (2011) states that computer games influenced students positively and support intrinsic motivation. The proper use of educational games in a classroom arouse students' interest in learning language, enabling them to participate more actively in the activities and practices involved in the learning process (Campos, Oliveira, and Brawerman-Albini, 2013). Namely, educational games provide engaging substitutes for real-life experience to learners who discover virtual worlds rich in opportunities for linguistic exposure and communicative practice.

Educational computer games are said to promote metacognitive strategy use and to foster both strategic and communicative competence by helping learners to assess the characteristics of a language-use situation, set communicative goals, plan responses and control the execution of their plans, can reduce the fear of making mistakes and encourage them to be risk-taker thus lower affective barriers to acquisition. Furthermore, educational games provide students opportunities to resolve problems by themselves, and promote learner autonomy by enabling them to be decision-makers. When the students need to work in small groups to maximize cooperative learning and to enhance opportunities for language use, provide real content for language learning, and present scenarios in virtual environment and give instantaneous feedback (Ranalli, 2008).

Zheng (2009) proposes that EFL teachers needed to be aware of their roles in a digital-based language teaching context. The teachers should develop a new and innovative understanding to integrate course content in formal setting with digital game-based learning. The teacher should understand her role in complex game-based virtual learning environments and how technology is incorporate foreign language pedagogical practices. From that perspective, educational games in digital context requires a teacher's conceptual change of her/his teaching philosophy to embrace constructivist teaching, and also requires teachers to be technology proficient in order to take full advantage of constructivist computer enhanced learning environments.

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