Chapter 4.21

The Use of Electronic Games in Distance Learning as a Tool for Teaching and Learning

Muhammet Demirbilek
Suleyman Demirel University, Turkey

INTRODUCTION

Playing game is the basic nature of human beings. Though the concept of learning through game is not a new one, it is generally acknowledged that the earliest educational games and simulations were usually war games (Gredler, 1996). Although electronic games have a very short history, they remain a vital force in entertainment. The earliest electronic game called *Spacewar,* was developed by a young graduate student named Steve Russell in 1961 on a PDP-11 computer at Massachusetts Institute of Technology (Herz, 2001). The *Spacewar* computer game is generally recognized as the first of the "shoot-'em' up" game genre.

Video games were introduced as a commercial entertainment medium in the early 1980's. The popularity of electronic games specially increased in entertainment sector during the 1990s, due to fast diffusion of the personal computers all over the world.

Electronic games are rapidly emerging products, changing the way we play, think, and learn. They are more than just kids' toys. Electronic games offer extraordinary opportunities to transform when, where, and how instructors might create new and more powerful ways to teach in schools, communities, and workplaces. While new information and communication technologies are exciting developments in distance education, the potential of electronic gaming in distance education as a tool for teaching and learning has not

been fully aware of by educators. However, recent studies show that electronic games are widely used as an educational tool in schools and becoming more a part of students' and adults' social lives. There is a tendency for people to spend a growing amount of time playing games, which plays a compensatory role whenever there is a lack of stimulation and challenge (Eglesz, Fekete, Kiss, & Izsó, 2005).

Growing use of the Internet and computers by educators and students around the world has been rapidly growing. The introduction of both the Internet and computers has vastly changed education. But the value of computers increases dramatically when they are connected to each other. The Internet and computers are more suitable for educational use of electronic based gaming. However, the potential for electronic games to be valuable learning tools in distance teaching and learning still has not been fully met. Many teachers now look at electronic games as an opportunity to improve outcomes of teaching by seizing the intrinsic motivational aspects of electronic gaming.

Recently, educators have become increasingly interested in the potential of games as teaching and learning tools. Therefore, the purpose of this study is to provide guidance to distance educators searching for ways to use the electronic games more effectively in their practice and give an overview of pedagogical approaches to electronics games in distance teaching and learning. Furthermore, a comprehensive review of research literature on electronic games, basic definitions, and genres of electronic games are provided.

There are different forms of games in terms of the technology used to play games and the number of players. Table 1 shows the game forms. The last two decades have witnessed that information and communication technologies have made a significant impact on development of electronic games. The term "electronic game" in this article refers to computer based games.

Table 1. Games Forms

Games	
Electronic Games	**Non-Electronic Games**
Computer (PC) Games Mobile Games Massively Multiplayer Online Games Video Games	Card Games Board Games Role Playing Games Etc.

BACKGROUND

Electronic Games

Electronic games have a programmed artificial environment by which the student can play, experiment and learn from mistakes and feedback (Nagle, 2001). The post-90s generation has grown up with computers and electronic games. The 21st century generations are likely to get bored with traditional teaching and learning strategies. Prensky (2001) asserts that educators must now deal with the "Games Generation" - which he labels "Digital Natives." He argues that "Digital Natives" have grown up with digital technology and are competent with its applications (Prensky, 2001a). Electronic games are increasingly becoming an important part of human's daily life. "The Games Generation has been raised with, and become accustomed to, the worldwide connectedness of email, broadcast messages, bulletin boards, user groups, chat, multiplayer games, and instant messaging" (Prensky, 2001, p. 57).

Electronic games in educational context are rule based choices, strategies and plays that put learning outcomes, objective and goals into action within an engaging, motivating, interactive context within a generally playful atmosphere. They can provoke interest for learning and make a dull subject fun. They are well suited for a learning content that requires practice, interactivity, instant feedback, and engagement. However, to sustain engagement throughout the learning progress and ensure effective learning, appropriate content

Related Content

A Scalable Graph-Based Semi-Supervised Ranking System for Content-Based Image Retrieval
Xiaojun Qiand Ran Chang (2013). *International Journal of Multimedia Data Engineering and Management (pp. 15-34).*
www.irma-international.org/article/a-scalable-graph-based-semi-supervised-ranking-system-for-content-based-image-retrieval/103009

A Review on 3D Signing Avatars: Benefits, Uses and Challenges
Kabil Jaballahand Mohamed Jemni (2013). *International Journal of Multimedia Data Engineering and Management (pp. 21-45).*
www.irma-international.org/article/a-review-on-3d-signing-avatars/78746

Improving the Classification Accuracy of Multidimensional Overlapping Objects Based on Neuro-Fuzzy Analysis of Generalized Patterns
Sergey Viktorovich Gorbachevand Tatyana Viktorovna Abramova (2018). *Intelligent Multidimensional Data and Image Processing (pp. 320-358).*
www.irma-international.org/chapter/improving-the-classification-accuracy-of-multidimensional-overlapping-objects-based-on-neuro-fuzzy-analysis-of-generalized-patterns/207903

Content-Based Multimedia Retrieval Using Feature Correlation Clustering and Fusion
Hsin-Yu Ha, Fausto C. Fleitesand Shu-Ching Chen (2013). *International Journal of Multimedia Data Engineering and Management (pp. 46-64).*
www.irma-international.org/article/content-based-multimedia-retrieval-using-feature-correlation-clustering-and-fusion/84024

Adaptation and Personalization of User Interface and Content
Christos K. Georgiadis (2006). *Handbook of Research on Mobile Multimedia (pp. 266-277).*
www.irma-international.org/chapter/adaptation-personalization-user-interface-content/20970