Chapter 4.1
A Policy Game in a Virtual World

Martha Garcia-Murillo
Syracuse University, USA

Ian MacInnes
Syracuse University, USA

ABSTRACT

Advances in computing and telecommunications make it possible to take advantage of immersive electronic environments to deliver content. In this chapter we present a policy game to be used in a virtual world. The benefits of this tool are examined using Gee's learning principles. From this analysis we find that games in virtual worlds enable reflective exploration that helps participants learn from their mistakes. Learning takes place from the content conveyed through the game and through the multimedia immersion that allows students to learn the nuances of these virtual contexts. Because there are no real-world consequences, participants can take risks, provide or receive help from other students, and most importantly, apply this knowledge to a real-world situation. Recommendations are provided to educators to help them exploit the great potential of games while being prepared for the obstacles they will face.

INTRODUCTION

The purpose of this chapter is to explore whether virtual worlds can provide a setting for a rewarding learning experience for college students. It defines the technology and examines the potential application of games in virtual worlds for education. We believe that virtual worlds engage students cognitively and these encounters can be potentially more rewarding within the context of games that help illustrate topics in the college curriculum.

The chapter also makes educators aware of the potential challenges of using virtual worlds to support learning.

There are two main contributions that we seek to make in this study. First, this chapter attempts to map the benefits of virtual worlds to a set of learning principles. This is unique, as studies to date have only documented the use of virtual worlds to teach specific subjects without analyzing the overall educational contributions of this tool to learning in general. The second contribution is the focus of the potential benefits that these virtual worlds have to enhance online education at the college level. We recognize that stronger evidence can be provided by testing the game, which will be the next step for this project.

While online college education is a fairly common practice today, most distance interactions with students rely on relatively mature technologies such as course management systems (e.g., WebCT, Blackboard), message boards, electronic mail, and Weblogs ('blogs'). These applications have facilitated the asynchronous interaction of individuals located in various places and time zones. However, information and communication technologies have advanced considerably, and college professors now have the opportunity to experiment with more innovative software applications that could make online interactions more engaging and stimulating. Virtual worlds represent one such application. In this chapter we explore the pedagogical benefits of virtual worlds, which we describe here as graphically immersive, persistent, shared, and typically avatar-based digital environments. We believe at the outset that virtual worlds offer instructors a potentially powerful tool for student learning and interaction through simulated experiences.

The chapter is divided in five main sections. The first section presents evidence from academic research of the potential benefits that virtual worlds can offer to distance students. Here we focus on video games and virtual worlds, and the educational benefits they can provide. The section also identifies the differences between virtual worlds and video games. The second section describes a lobbying game that was adapted from a traditional classroom to a virtual world environment. This was done because of the increasing popularity of online classes at university campuses. There is thus a need to find online activities that maintain the interest of students. Here we describe the simulation and the process that we followed to select a virtual world that could work with this simulation. The third section of the chapter analyzes the educational value of the lobbying game within the virtual world. To do this we used Gee's learning principles and determined if virtual worlds offer those benefits. The fourth section presents some of the challenges to educators of the process of developing games for virtual worlds. The fifth and last major section prior to the conclusion talks about future trends of virtual worlds in educational settings.

VIDEO AND COMPUTER GAMES AS PEDAGOGICAL TOOLS

Work, leisure, and education have all been affected by advances in information and communication technologies. Technologies for entertainment purposes can be so captivating now that traditional classroom and electronic education programs sometimes pale in comparison. The video and computer game industry, in particular, has evolved radically over the past decade to offer interactive capabilities that were only imagined 20 years ago. The cutting-edge animation, opportunities for interaction, and dynamically generated narratives that can be found in today's games have attracted large, diverse audiences, and many American teenagers and young adults play these computer games on a routine basis (Jayakanthan, 2002).

It is thus not surprising that aspects of our lives that were not initially affected by computer-based multimedia are now being transformed. Two such aspects that are being integrated and made increas-

Related Content

Critical Gameplay: Design Techniques and Case Studies
Lindsay Grace (2011). *Designing Games for Ethics: Models, Techniques and Frameworks (pp. 128-141).*
www.irma-international.org/chapter/critical-gameplay-design-techniques-case/50736

On Combining Sequence Alignment and Feature-Quantization for Sub-Image Searching
Tomas Homola, Vlastislav Dohnaland Pavel Zezula (2012). *International Journal of Multimedia Data Engineering and Management (pp. 20-44).*
www.irma-international.org/article/combining-sequence-alignment-feature-quantization/72891

Audio Classification and Retrieval Using Wavelets and Gaussian Mixture Models
Ching-Hua Chuan (2013). *International Journal of Multimedia Data Engineering and Management (pp. 1-20).*
www.irma-international.org/article/audio-classification-and-retrieval-using-wavelets-and-gaussian-mixture-models/78745

Audiovisual Facial Action Unit Recognition using Feature Level Fusion
Zibo Meng, Shizhong Han, Min Chenand Yan Tong (2016). *International Journal of Multimedia Data Engineering and Management (pp. 60-76).*
www.irma-international.org/article/audiovisual-facial-action-unit-recognition-using-feature-level-fusion/149232

Web Site Usability
Louis K. Falkand Hy Sockel (2005). *Encyclopedia of Multimedia Technology and Networking (pp. 1078-1083).*
www.irma-international.org/chapter/web-site-usability/17370