

Chapter 7

Education for Inclusion Using Virtual Worlds: An Experience Using OpenSim

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ABSTRACT

In this chapter, the authors present an introduction to the use of virtual worlds in education, an analysis of the stronger and weaker points that such environments offer for high school education, and an experience on applying such technologies for the inclusion at a concrete high school in Cunit (Spain). In this high school, there is a need for teaching immigrant children the Catalan language when they arrive, in order to allow them to continue their studies integrated with the rest of the students. The chapter describes an experience on using virtual worlds for achieving such goal, based on the open software platform called “OpenSim.”

INTRODUCTION

Over the years, education has suffered a series of changes regarding the educational models with the aim of improving the educational quality. In fact, the emergence of new technologies has been a key factor for developing new ways of teaching.

In this chapter we will discuss the main educational models that have appeared and those that are being used in the classroom. These educational models have many common features, thus opening the possibility of using them simultaneously. In traditional education the teaching-learning process is based on formal classroom-based education, where students and teachers are both present in the learning environment. The e-learning model

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was developed to offer new educational models that do not have this location constraint.

In first place, we will analyze educational models that are emerging through the use of Information and Communication Technologies (ICT). In second place, we will discuss how current learning theories support the application of virtual worlds in education. In third place we will analyze the advantages and disadvantages of the application of virtual worlds in the classroom. We will also briefly discuss the most widely used virtual world platforms in education and some examples of projects where virtual worlds are applied to the educational context. In fourth place, we will describe what inclusive education is and we will propose the use of virtual worlds to promote the integration of cultural diversity and to improve the communication and social skills of the students. Finally, we will present a case study of such application of virtual worlds.

ICT AND EDUCATION: E-LEARNING AND BEYOND

E-learning is a distance education model that uses Information and Communication Technologies (ICT) in the teaching-learning process. E-learning provides new tools for communication such as chat, forums, email and other forms of teacher-student interaction and student-student interaction. The interactions between students and teachers can be synchronous, for example when participating in a chat room, or asynchronous, for example when sending a question by email.

Learning management systems (LMS) are one of the main tools used in e-learning. Moodle probably is the most used LMS, being very easy to install and use. It includes tools such as chat, forums and efficient management of students and their grades; teachers can even give specific feedback on student activities. There are also other platforms such as the Sakai project or Dokeos that are used in various areas of education. The majority of schools base

the decision of what learning platform to use on the availability of software licenses. Open software plays an important role in this area.

The emergence of Web 2.0 has allowed the use of other tools and platforms for online learning in collaborative spaces. The emergence of social networks, forums, wikis, blogs and other tools can complement online learning. Web 2.0 encourages more active participation in the network, through the contribution of knowledge and experience from the active users, thus developing the so called “collective intelligence.” Users are generating content that is filtered through the “collective” to ensure a good level of accuracy. Web 2.0 users are producers and consumers of information while users of the traditional web (Web 1.0) are only consumers of information. E-learning can be complemented with some of these Web 2.0 applications such as Youtube, Wikipedia, Slideshare, Flickr and others, thus enriching the teaching-learning process.

Following the evolution of the educational methods, there is a variant of e-learning called b-learning (blended learning) which aims to combine classroom teaching (face-to-face) with virtual learning. Blended learning can help to address some issues within e-learning, such as the lack of physical student-teacher interaction, the student’s low capability for independent learning, and the lack of student’s competence in the use of ICT.

Both e-learning and blended learning are educational models which aim to develop some important skills: knowing how to find relevant information on the web; team-working; and decision making based on diverse information.

Another variant of e-learning is m-learning (mobile learning) in which learning takes place using mobile devices such as smartphones, tablets, i-pods or any device that has wireless connectivity. M-learning is growing quickly because most students have mobile devices and use them frequently. An example of m-learning is a student traveling on the train on the way to college while she is connected to the virtual campus of the university, reading notes or sending an e-mail to a professor.

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