

# Chapter 10

## Virtual Learning Environments for a New Teaching Methodology

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### ABSTRACT

*The potential and new educational perspectives offered by virtual environments are the arguments with which you want to highlight the opportunity, through the experience of the simulation offered by environments such SecondLife®, to organize and expand the involvement and motivation of pupils through active participation. It will be explained, in detail, how to plan a lesson in SecondLife® after having designed and built a learning environment by creating Holodeck, Teleport, Script, and the use of numerous Tools needed to implement a teaching unit.*

### INTRODUCTION

The systematic and widespread use of new technologies developed autonomy to learn what you want, when you want and where you want making the man protagonist of the construction of their own knowledge. The school could no longer ignore the need for change, has had to adapt: from teaching to learning for all, place, free from notional and open to global content limits.

By working with the kids, we have learned that, in teaching, the use of real and handling experience represents an added value to the learning process because the student can organize and expand the social interactions and collaboration, increase its involvement and motivation through active participation.

There was much discussion lately, about the educational potential that virtual worlds may represent for education: they offer a wide range of tools for social interaction, represent an innovation in learning and stimulate the active participation of students.

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Il virtual learning environment (VLE) (Martins & Kellermanns, 2004) is a web-based communications platform, that allows students, without limitation of time and place, to access different learning tools, such as program information, course content, teacher assistance, discussion boards, document sharing systems, and learning resources; they can customize the learning pathways and to combine the immediacy of distance learning courses with interactivity and immersion given by the three-dimensional virtual worlds, digital 3D environments, in which users can interact with each other through their avatars and use or create objects, communicate with texts, images, gestures, sounds and three-dimensional representations.

Some speak of a new medium those who simply consider the possible use of VW (Virtual World) as an evolution of the web 2.0.

Barney Dalgarno, associate professor in education and Sub Dean Learning and Teaching in the Faculty of Education at Charles Sturt University, has proposed a scheme useful for evaluating which components in the 3D learning practice can be shared and for what specific purposes. The scheme takes as assumed the constructivist theory and the paradigm of learner-centered in which the individual in the act of reconstructing reality, create and build their own knowledge:

- **Endogenous Elements of Constructivism (for Formal Education):** Simulations of difficult places to visit; simulation of microscopic environments; simulation of physical environments containing entities with dynamic behavior; hazardous environments simulations or expensive for skill practice; visual modeling of abstract concepts in 3D; 3D interfaces for complex information structures.
- **Exogenous Elements of Constructivism (for Individual Learning):** 3D models or small 3D environments embedded within educational resources; educational resources located within a 3D environment; cognitive Tools 3D
- **Elements of Dialectical Constructivism (Learning by Doing and Mentoring):** 3D environments provide a “sense of place” as part of the CMC; distributed 3D environments enable students to collaborate on a remote task; distributed 3D environments allow teachers or experts to provide support.

De Freitas and Veletsianos (De Freitas, S., Veletsianos, G.2010) remind the educational potential of virtual environments by stating that “Compared to traditional ways of learning, the use of virtual worlds - integrating text and voice to the sense of presence - favors more complex social interactions and structured learning experiences that stimulate students and increase their motivation and interactive participation” allow, therefore, to reorganize and expand the social and collaboration interactions, foster greater involvement and motivation through participation; They provide opportunity for creative experimentation and allow you to activate any type of simulation, even those that are not viable in real contexts.

Another vision of virtual worlds offers it to Tony O’ Driscoll (Cross, O’Driscoll, Trondsen, 2007), which classifies them into “Metaverse (whose spring is represented by business and collaboration born in a context with economic purposes) until all’Interverse (3D Learning) and all’Intraverse (created for collaboration among IP firewalls, that the dialogue between different organizations). This classification can also be read as a selection of ways to use virtual worlds for training purposes”.

The word Metaverse, used for the first time by Neal Stephenson in 1992 during the writing of his novel Snow Crash, born from the union of meta (beyond) and verse (universe) and chooses to indicate a virtual reality shared via the internet where you are represented in three dimensions through their Ava-

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