Exploring the Virtual Learning Environment

Teresa Torres-Coronas
Universitat Rovira i Virgili, Spain

INTRODUCTION

Education has traditionally been conducted face-to-face, with professors performing outstanding magisterial classes in front of the learners. During the centuries, students and professors have shared the same time and same space frame. Nowadays, things are quite different. Information Technology (IT) is a reality affecting the whole education system from primary school to post-graduate education. IT has a considerable impact on the learning providers, on the learning process itself and, of course, on any agent involved in the process. The aim of this article is to explore this fascinating new learning world. To do this, we discuss the following main two elements: the plethora of terms related to virtual learning and, the dimensions of a virtual learning environment. Finally, some suggestions are made for future research in this field.

BACKGROUND

Distance education is a flexible learning process: learners can study anywhere and anytime. It can be defined as the semi-permanent separation of teacher and learner, the use of technical media, and the provision of two-way communication (Keegan, 1986). The quasi-permanent separation of teacher and learner throughout the length of the learning process distinguishes it from conventional face-to-face instruction:

1. The influence of an education organization both in the planning and preparation of learning materials, and in the provision of student support services. This distinguishes it from private study and teach-yourself programs.
2. The use of technical media, print, audio, video, or computer to unite teacher and learner, and carry the content of the course.
3. The provision of two-way communication so that the student may benefit from even initiated dialogue. This distinguishes it from other uses of technology in education (Keegan, 1986, pp. 37-38).

History has demonstrated that technology affects education profoundly. Considering the definition of technology broadly, one may say that prehistoric people used primitive technologies to teach skills to their young (Frick, 1991). Whenever a new medium entered the picture, a new wave of educational delivery arrived. Radio, television, and now computers have all impacted the field of distance education, though some studies (see Russell, 1999) report no significant differences in performance between face-to-face instruction and technology-supported environments.

Nowadays, TICs play an essential role in the establishment of teacher and student communication. Campuses are networked, faculty post their notes on Web pages, students access the library from their rooms, and entire classes can have discussions via chat software (Rice-Lively, 2000). Distance teaching has developed new forms as a result of the development of information and communication technologies. This development has recently come to be labeled under the by now commonly accepted term *e-learning* (Hudson, 2003). "Definitions about e-learning go back only to 1999, revealing the newest of the term" (Seufer, 2002, p. 111).

E-learning is often confused with other forms of learning involving technology such as computer-based training (CBT), Web-based training, or technology-based training (TBT). Ettinger and Redman (2003) clarify these terms as follows:

- **Distance training:** Any form of learning that is done away from the place of study.
- **Technology-based training (TBT):** Any training where technology is being used to

Table 1. Classification of dimension of learning environment (adapted from Piccoli et al., 2001)

DIMENSION	DEFINITION
Time	Timing of instruction. VLEs free participant from time constraints. When instruction is delivered asynchronously in a VLE, participants retain control as to when they learn.
Place	Physical location of instruction. VLEs free participant from geographical constraints. Access to materials through networked resources and computer-based interface, rather that face-to-face.
Space	Collection of materials and resources. VLEs provide access to a wide array of resources.
Technology	Collection of tools used to deliver learning material and to facilitate many-to-many communication among distributed participants. Delivery technology's examples: text, hypertext, graphics, streaming audio and video, computer animations and simulations, embedded tests, dynamic content. Communication technology's examples: electronic mail, online discussion boards, synchronous chat, desktop videoconferencing.
Interaction	Degree of contact and educational exchange among learners, and between learners and instructors. VLEs are open systems that allow for communication and interaction among participants in a technology-mediated setting.
Control	The extent to which the learner can control the instructional presentation. VLEs have the potential to provide far greater personalization of instruction and a much higher degree of learner control than traditional classroom education.

transfer knowledge and learning such as CD-ROM, computers, audiotapes, videotapes, and so on.

- **Computer-based training (CBT):** Training packages that make use of computers and computers networks.
- **Multimedia training:** Training packages that use sound, video, and rich graphics.
- **Web-based training (WBT):** Computer-based training available through the use of Internet technologies. WBT is often used interchangeably with e-learning.

The American Society for Training & Development (ASTD) defines e-learning as technology-supported learning and delivery of content via all electronic media. E-learning places emphasis on interaction and communication. Components can include content delivery in multiple formats; management of the learning; and a networked community of learners, content developers, and experts (Gunasekaran, McNeil & Shaul, 2002). The Internet/World Wide Web have meant that opportunities have been identified for developing distance learning activity into a more advanced online environment (Furnell et al., 1998). It is known as *virtual learning environment* (VLE), which can be defined in terms of time, place, space, technology, interaction, and control (see Table 1) (Piccoli, Ahmad & Ives, 2001). Examples of VLE include WebCT, Lotus LearningSpace, and COSE (www.staffs.ac.uk/COSE). VLEs eliminate geographical barriers while providing increased convenience, flexibility, individualized learning, and feedback over the traditional classroom (Kiser, 1999).

A VLE—also known as *learning management system*—is designed to act as a focus for students learning activities, along with the provision of content and other helpful resources. Another type of system is the *managed learning environment* (MLE), which includes all of the wider features of enrollment, course options management, student record and profile keeping, the wider management, interchange and publication of content, and the