Chapter 17
Management Conflicts in E–Learning Environment: Vulnerabilities in E–Learning Environments

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ABSTRACT

The development and technological revolution has contributed to a remarkable increase in the supply of training processes in e-learning educational institutions. The interaction and participation in educational activities under this paradigm involves a series of implications from the point of view of safety and privacy. This chapter presents the main vulnerabilities of e-learning systems and their involvement in the emergence of conflicts for the participants from online training activities and for the educational institutions. The study develops from three types of conflicts: the availability and system integrity, the privacy of the information that is exchanged in virtual environment and the process of authentication of the participants. The authors emphasize the main conflicts that can occur and the actions to take into account in e-learning environments to avoid or mitigate the effect of these vulnerabilities, to ensuring design and topology of systems, application code, and communications that are exchanged in training processes.

INTRODUCTION TO E-LEARNING ENVIRONMENTS

Lifelong Learning and ICT

Currently, society in permanent change requires continuous adaptation of the human being to the surrounding environment. We live in a global, multicultural and hyper-connected world where technology is present in all spheres of life and is the backbone for the transformation of society (Telefónica Foundation, 2004).

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The development of the information society is linked to a permanent need for learning by individuals. In this sense, we can speak of learning throughout life in all areas of knowledge, either when it is formal, non-formal or casual learning. It is a continuous process focused on the particular needs of the individual. “The aim of lifelong learning is to improve knowledge, skills and competence with a personal, civic, social or employment-related perspective” (Yamat et al. Cited by Nordin, Embi & Yunus, 2010, p. 131).

Today, the Information and Communication Technology (ICT) has provided the opportunity to experience learning situations at any time, without the necessity of being present, no matter the place or device. The globalization of education allowed the increase in distance learning programs, supported by the growing use of e-learning systems.

The ICT has expanded the range of possibilities of teaching and implementing innovative methodologies. An example is the organization of cooperative learning with the mediation of virtual scenarios (Trujillo, Cáceres, Hinojo & Aznar, 2011).

The acceptance and use of these e-learning systems enable the success of such educational programs.

**E-Learning**

It seems there is no consensus regarding what should be the universal definition for e-learning term. Some authors have emphasized the characteristics of a technological nature, and others, on the contrary, highlight the pedagogical issues, depending on the duality of their academic and scientific profile.

After analyzing different definitions from different perspectives like technology, access to information, communication and the educational paradigm, a new definition of e-learning was obtained from a recent international research in which they have used the Delphi method (Sangrà, Vlachopoulos & Cabrera, 2012):

_E-learning is an approach to teaching and learning, representing all or part of the educational model applied, that is based on the use of electronic media and devices as tools for improving access to training, communication and interaction and that facilitates the adoption of new ways of understanding and developing learning._ (p.152)

Regarding the methodological potential presented by e-learning, Trujillo, Hinojo y Aznar (2011) provide an overview of e-learning as an engine of networking, interaction and collaboration among peers and emphasize the new role of students participating in online training activities which increases their prominence and matters them develop a greater commitment to learning. To implement this methodological change an adaptation of the current teaching practices and the consequent improvement of the teachers’ professional skills is required (Romero, Moreno & Sola, 2012).

Recently, in a review and redefinition paper of the concept of e-learning, García-Peñalvo & Seoane-Pardo (2015) have defined the term from a holistic perspective:

_The training process, of intentional or unintentional nature, aimed at the acquisition of a number of competences and skills in a social context, developed in a technological ecosystem in which different profiles of users share content, activities and experiences and interact in situations of formal learning; it must be supervised by teaching actors whose activities contribute to ensure the quality of all the factors involved._ (p. 132)