

From Distance Education to E-Learning as Integrated Training

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INTRODUCTION

In the last few years, the methods for the delivery of professional and educational training have radically changed. More knowledge and information are required from people in order to achieve an active role in their social and professional life. At the same time, the period of validity of new information and the currency of competencies quickly decrease. As a consequence, *continuing education* is perceived as necessary, even if the traditional methods of delivery are sometimes limited by the distance between the learner and the training centers. For this reason many continuing education programs make use of distance learning techniques that make the adoption of *distance education* programs more popular.

THE EVOLUTION OF DISTANCE EDUCATION

The distinction of distance education into three *generations*, originally made by Garrison (1985) and Nipper (1989), is widely accepted.

The *first generation* began in the 19th century in the United States and Canada. It utilized postal correspondence to provide basic and vocational education to students, mainly adults, across the country, and was especially popular in remote areas. Thus, distance education was based on the use of regular mail to send books, duplicated notes and tests to students who then sent the tests back to be corrected.

Between 1950 and 1960, thanks to the birth of television, the so-called *second generation* systems were added to the traditional ones. Originally, they consisted of lessons recorded on video and audiotapes and later consisted of teaching software packages, CD-ROMs, other media storage formats, and e-mail.

In this period the first distance education universities were founded. The most widespread and well known is the British *Open University* established in 1969. It represents one of the most interesting model for adult training. It began by providing its training offers through both radio and television, supported by paper materials and by video and audiotapes. Later, it created study centers, the tutors-advisors networks, and self-learning groups. Today it represents the biggest university in the UK and this model has spread all over the world. Among the “open” universities there are the Spanish *Universitat Oberta de Catalunya* and the U.S. *City University* and *United States Open University*, which has gained a leading role in part-time education and in adult in-service training.

Today’s distance education, known as the *third generation*, is called *e-learning* (electronic learning) and makes use of network connections, by exploiting all the ICT (*information & communication technology*) resources. Garrison underlines the improvement in the relationship between teachers and students while Nipper emphasizes the revival of cooperative learning that has characterized adult education. According to Nipper, the implementation of network technologies alone is not enough to characterize distance learning as belonging to the third generation. It may be classified as the second generation if technology is considered as a means through which material is distributed to students.

The real difference between the generations is in how learning has been perceived historically. In the first two generations learning is not seen as a social process and consequently it does not imply dynamic interactions either between teachers and students or among students. Since there is no interactivity, learning becomes an individual rather than a social process. The third generation goes beyond this “social divide” and learning becomes a true social process. This is possible thanks to new forms of sharing and of interpersonal dialogue not only in the relationship between the teacher and the student but also between the students themselves. Networked communication encourages “one-to-one”, “one-to-many” as well as “many-to-many” exchanges of information. This allows a student to interact and work cooperatively with groups of students. Virtual classrooms can be set up. In this case, relational and cooperative dynamics can be quite complex, sometimes similar to those that develop in real classroom settings. As emphasized by the leading experts in this field, the main features of third generation environments are the sense of being part of an ongoing community and the ability to set up an emotional environment of rich interpersonal and collaborative relationships. In this case, the difference when compared with the second generation systems is clear as they were identified by the perception of learning as an isolated process.

The *fourth generation* is characterized by virtual learning environments or e-learning platforms which are complex systems, designed to facilitate e-learning. These e-learning systems are divided into two main groups: (1) ILS (integrated learning system), also called LMS (learning management system), that imports, assembles and instructs courses and administers tests, by tracking all the operations made by students; (2) LCMS (learning content management system) based on the creation, recording, organization and reuse of contents, set in *learning objects* or teaching units that form a complete topic.

In brief, it can be stated that the LMS is based on the instruction of the courseware and of the training process while the LCMS is based on the creation of contents that can be supplied independently from the type of LMS that is available.

E-LEARNING FEATURES

One of e-learning’s fundamental characteristics is the possibility for students to access the contents and materials anytime and anywhere. In order to attend an online training course, it is necessary to have only a computer connected to the Internet. Students who live in isolated and remote places may attend a course avoiding the possibility of being excluded by training offers available to the luckiest ones.

Another important advantage of e-learning is *flexibility* in the personalization of the training process according to the students’ learning styles, competencies and the specific objectives each is to achieve. Through the use of particular software, instructors have the opportunity to monitor the results of the students’ work, the level achieved by each and the possibility to update their online documents (notes, images, videos, etc.).

The most widespread instruments that assure interactivity and as a result the motivation to learn are:

- *Online forums*: A place where students exchange information on specific topics. The forum moderator must ensure that the exchange of viewpoints and beliefs do not go beyond the discussion objectives and topics.
- *Chat rooms and mailing lists*: They represent socialization moments. The chat room and mailing list administrators should provide detailed information about their next meetings and should act like a filter for the informal requests of feedback during the communication process. Chat rooms and mailing lists connect the virtual community members with common interests and individuals charged with working on projects in a group setting.
- Requests for deeper *investigations* that develop in any situation, both formal and informal.

E-learning develops both synchronously (in real time) and asynchronously (in deferred time). In the former case, students may ask questions of the instructor during a videoconference in real time and through the Internet (*live session*) either by text (*chat*) or by audio (if the workstation is equipped with a microphone). In the second situation, communication is asynchronous when students communicate with instructors via e-mail, through discussion forums or when reading the course material available online according to their

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