

## Chapter 32

# An Analysis of the Possibilities of the Use of Technology for the Learning of Languages: From CSCL to Cloud Computing and MOOCs

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### ABSTRACT

*Being able to communicate in a foreign language is a very pleasant experience. Moreover, in different working environments and scenarios, it is necessary. For this reason, there is a tremendous need to continue the research and development of techniques, tools, applications, strategies, and experiences related to the teaching and learning of foreign languages, adapted to the different needs, abilities, and interests of the learners. This chapter explores the important role that technology is playing in supporting the learning of languages through the facilitation of ubiquitous learning, where techniques such as informatics technology, mobile technology, or cloud computing, and tools such as learning management systems (LMSs) and massive open online courses (MOOCs) can be of great help.*

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## **INTRODUCTION**

The application of the information technology to the teaching and learning of languages has experienced a quick development during its fifty years of history. Since its beginning in 1960, a number of student-focused tools that applied different learning theories has been used (Fryer, L.K., Bovee, H.N. & Nakao K., 2014).

Nowadays, learning takes place in a rapid changing technology-based environment. The key characteristics of the new scenarios include the possibility to access a huge amount of information, the availability of an important number of technological devices and applications including smartphones or webs sites, and the capacity of social collaboration at a big scale (Yang & Wu, 2012).

According to Huang et al (2012), the world is a global village and the need to learn languages is critical to be able to communicate. These authors also points to English as the most useful language to communicate across the world.

Yang et al (2010) say that a lot of students still learn with a teacher-centered method. However, the growing use of technology applied to the learning of languages allows teachers to organize learning activities around students, and to use multimedia materials, songs, videos and other instruments and resources to motivate them.

Moreover Liu and Chu (2010) say that technology-based self-learning has become one of the most popular methods to improve skills in the English language.

In this chapter, the authors explore the possibilities of using technologies such as informatics technology, mobile technology or cloud computing, and tools such as Learning Management Systems (LMSs) and Massive Open Online Courses (MOOCs) in the context of a ubiquitous learning environment focused on the learning of languages. For this objective, the authors have conducted a survey of the state of the art through a comprehensive search of relevant scientific literature.

## **BACKGROUND**

In the latest years, the use of computers in the learning of languages has become more and more common. Also, during these years an important and increasing number of virtual learning environments as well as online tutoring systems that offer tailored feedback have been developed (Stickler & Shi, 2013).

Apart from the 90s, the focus of research about intelligent systems has been to increase its intelligence and interactivity. In the case of its application to the learning of languages, these systems have been used for example to simulate travels abroad (Tsai, C.W., Liao, M.Y., Yang, C.S. & Chiang M.C., 2013).

In a context where the user interacts with so many systems, the concept of ergonomics becomes important. Ergonomics (from the Greek word *ergon* meaning work, and *nomoi* meaning natural laws), is the science of refining the design of products to optimize them for human use. This means the optimization of the user's interface of the application or software system so tasks can be easily done by the users. According to Garcia-Laborda et al. (2010), in order to analyze ergonomics in the context of computer based learning systems, it is necessary to consider the perspective of the users (students and teachers), the user interface and the tasks to be developed.

Other authors such as Cekaite (2009) hold that the potential of technological tools for the learning of languages can be measured through the analysis of its usability, which refers to the easiness with

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