Chapter 2
Understanding Online Learning Environments (OLEs)

ABSTRACT

An online learning environment (OLE) is a unique sociocultural context in itself. The aim of this chapter is to look at OLEs from a global point of view, based on well-recognized learning theories, in order to provide a theoretical “big picture” and to help envisioning the OLEs opportunities. Additionally, concepts, like online learning, online teaching, online interaction and online technology are discussed towards a better understanding of OLEs. Representing an exciting synthesis of ideas from multiple perspectives, some current and upcoming trends related with online teaching-learning development, such as massive open online courses, small private open courses, affective learning and learning analytics, conclude the chapter.

INTRODUCTION

Socio-constructivist educational perspectives hold that learning is an ongoing process of knowledge construction, emphasizing the importance of interaction and bringing out how knowledge construction is related with the context of social interaction, as well as, individual cognitive processes (Vygotsky, 1978).

Learners work together to (co)construct knowledge through agreement between the different cognitive patterns within an individual’s brain (Vygotsky, 1978). Proposing the Zone of Proximal Development (ZPD), Vygotsky considers that learners collaborate by articulating ideas, sharing information, reconstructing their individual experiences, negotiating meaning through socially-mediated interaction and, hence, co-construct new shared knowledge. In fact, the process of articulating our thoughts, sharing perspectives with others, and arguing our own perceptions, engages us in a complex process of knowledge construction (Jonassen et al., 1995). Through this collaborative process, learners can express, articulate, and negotiate alternative perspectives, including reflections on the meaning of concepts, put forward by the teachers/moderators and peers.

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From a socio-constructivist perspective, multimodal Online Learning Environments (OLEs) may be particularly suited to provide socio-cognitive support and mediated social interactions. In general, the modes/affordances of the media influence the way learners collaborate/interact to negotiate meaning and co-construct knowledge. Harasim (1987) clearly explains that the multimodality of online interactions led to the creation of new types of interaction, which reflect the features of constructivist learning environments. In addition, Salaberry (2000) emphasizes that the new multimodal technologies create a new environment with different landscapes for the exchange and construction of knowledge. Studies have been carried out to investigate the types and patterns of interaction and report the increase in the quantity of interactive participation. Moreover, the manner that learners make use of the affordances of these multimodal tools/resources influences the shape of interaction, in terms of quality and quantity.

In short, learning is a complex process of socially negotiated construction of meaning through collaborative interactions. Nevertheless, experience with online teaching and learning has shown that there are no models of learning limited to online environments; however, there are “e-flavors” of more general learning theories, which are made possible with the use of technology (Mayes & de Freitas, 2004). In fact, OLEs have been identified as excellent places for teaching and learning approaches derived from constructivist perspectives and from social aspects of learning (Garrison, 1997; Jonassen et al., 1995; Reil & Polin, 2004). These approaches recognize learning as a constructive process that, being personal, is a blend of individual mental processes and more widely distributed social activities (Prawat & Floden, 1994), focusing on learners and their efforts to construct knowledge through activity and experience (Garrison, 1993; Jonassen, 1999).

The quality of OLEs should be based on educational principles that are derived from multiple learning theories. In general, while theories from psychology describe how people act, educational theories describe how people learn. Generally speaking, the OLE allows students to use a variety of resources beyond traditional textbooks to pursue self-directed learning, as important characteristic of problem-based learning (PBL) as a constructivist method of instruction (Dewey, 1910; Bruner, 1959; Piaget, 1954). Hill et al. (2004) argued that learning with online resources allowed students to actively construct something unique. In fact, online resources used in this way become cognitive tools that enhance human thinking, problem-solving, and learning. In addition, PBL has the ability to improve students’ critical-thinking skills and motivation for learning, along with their autonomy and self-direction, enabling them to become more effective practitioners and lifelong learners.

OLEs, seen as relational systems guided by the interactions between individual actors, have been mainly considered as social environments (Steeples et al., 2002). In addition, the connectivity afforded by networked communication technologies within these OLEs creates opportunities for human-computer interaction (HCI) among all stakeholders (including teachers, learners and administrators). Moreover, interpersonal interaction (i.e., the mutual modification of attitudes, ideas, skills, beliefs, and knowledge) is a key-feature of contemporary OLEs. Here, the emphasis is on the processes of cognitive interaction and learning have to be seen as an active, dynamic process (Goodyear, 2002).

Oliver (2001) provides a starting point for understanding aspects of contemporary OLEs. He notes that: 

Contemporary online learning development in HE [Higher Education] is moving away from the notion of learning settings being comprised of pages of electronic text, to more deliberately planned learning designs, learning tasks and processes structured in deliberate ways. In previous settings, instructional design had focused on developing pathways for learners through learning content, whereas in contemporary settings the designs are now focusing on providing learning activities that bring about planned learning outcomes. (Oliver, 2001, p. 455)
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