Chapter 17
Fostering NCL in Higher Education: New Approaches for Integrating Educational Technology Instructional Design into Teachers’ Practice

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ABSTRACT

Networked Collaborative Learning (NCL) is undeniably a double-edged sword. On the one hand it can yield high-quality learning and enhance both teachers’ and learners’ satisfaction. On the other hand, however, it requires careful planning and specific skills for the design and management of online learning activities. This is one of the main reasons for the limited adoption of NCL in a number of educational contexts. The focus of this chapter is a specific proposal aimed to foster the wide diffusion of Educational Technology (ET) and NCL in higher education (HE). In this perspective the chapter analyses the main barriers that limit the diffusion of Network-Based Educational Technology (NBET) approaches, in particular NCL, and then, in order to overcome them, presents an innovative approach to faculty training in Educational Technology Instructional Design. This approach is founded on multidimensional scaffolding, which supports teachers to integrate rules, heuristics, and best practices for design of active and collaborative online learning into their everyday activity.

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INTRODUCTION

Although learning is indeed an “individual” process of growth and transformation of personal knowledge, it is however advisable for it not to remain an “isolated” process, even when it is managed online. Over 20 years ago, in his work entitled “Megatrends,” John Naisbitt (1984) claimed that one of the keys to the success of distance learning was the combination of “high-tech” with “high-touch,” (i.e. of the sophisms of technology with contact between people, in our specific case between educators, course students, experts etc).

Technology itself is seldom the real obstacle to educational innovation centred on Educational Technology (ET). As pointed out by the AECT, since Educational Technology can be considered as “the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources” (Januszewski & Mølenda, 2008), it doesn’t relate only to technology as a “tool,” but also and mainly to theories, methods and practices facilitating learning through specific technology-based resources and processes. In fact, the main problems concerning ET-centred innovation are almost always related to achieving better understanding of the role of the human component within the technology-based processes, and of the potential and limitations of network-mediated interaction in the improvement of distance learning processes (Naisbitt, 1984).

On the one hand, if we analyse the most common uses of Information and Communication Technology (ICT) in higher education, it is not difficult to realise that students often find themselves assuming a passive role within a learning process which is mainly guided by the educational material prepared by the teacher (Collins & Van der Wende, 2002; Kirkwood, 2009).

On the other hand, social constructivism (Vygotsky, 1978; Gunawardena et al., 1995) has brought to light the importance of interaction—among learners and between teachers and learners—in attaining specific learning goals. More generally, it has revealed the impact that these interactions can have on cognitive and metacognitive processes, on the motivation to learn, on self-esteem and on the development of social belonging (Bronfenbrenner, 1979).

Several research studies and experiences (Bruffee, 1999; Collazos, et al., 2004; Kreijns & Kirschner, 2004) have shown that collaborative learning experiences normally enhance the development and the employment of high-level thinking skills (Brown, & Palincsar, 1989). These premises can be easily extended to Networked Collaborative Learning (NCL), whose pedagogical dimension is based on social constructivism (Daradoumis & Marquès, 2000; Felder & Brent, 2001).

In this sense, the term NCL does not merely indicate that the education process is supported by a computer network, but also (and more significantly) that the process is underpinned by, and conducted through, a network of inter-relationships among all the actors of the process: learners, teachers, tutors, experts (Trentin, 2010). These inter-relationships are intrinsic to collaboration within a community pursuing a common learning goal. So the network should be seen primarily as a social network, and not merely as a computer network for distance communication between individuals.

The NCL approach has various important implications (Koschmann, 1996; Fink, 1999).

- **educational implications**: emphasis on “learning by doing,” students involvement in a collaborative knowledge building, and a change in teacher’s role from “authority and knowledge holder” into “guide and facilitator”;  
- **a new vision of the “information” concept**: the information itself is inert matter, lacking that dense network of logical and communicative connections which can transform it into significant group knowledge;  
- **a new focus of the learning process**: the subject is placed at the centre of the learning
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