

## Chapter 47

# Cross–Border Collaborative Learning in the Professional Development of Teachers: Case Study – Online Course for the Professional Development of Teachers in a Digital Age

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### **ABSTRACT**

*The goal of this chapter is to present a theoretical and practical frame for PD of teachers at the digital age. The main question we ask is how to develop life competencies and skills of teachers in order to change their learning and teaching in a way that enables school graduates to acquire relevant skills for life. The chapter inquires this issue by a qualitative methodology case study. The case is an online course for teachers' professional development. The chapter presents evidence from reflective diaries, interviews and scripts of students' and teachers' discussions, focusing on identification of the effects of the course's learning environments on the development of the teachers' self determination learning and skills. The findings indicate the useful effects of the combination between LMS environments and social media, such as Web 2.0 tools. The conclusions suggest new directions for teachers' professional development that encourage the design of a flexible fractal net which enable fostering teachers' leadership and innovation.*

### **INTRODUCTION**

This chapter addresses the question: How can teachers be trained to advance life competencies and skills? We shall present a case study of an

online course for veteran teachers, whose aim is to train teachers to lead pedagogical innovation. We will then propose a model for the professional development of teachers that can adapt to the rapid development of ICT technologies.

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The internet has made it possible for accessibility and communication between people across borders, nations, countries, cultures, and lifestyles.

While the education world is undergoing processes of change, and is beginning to adapt to the rapidly developing digital culture, change is still required in the perception and practice of the professional development of teachers, and its adaptation to the schools of tomorrow.

Our book, *The "Arrow Head" and the "Warm Hand"* (Davidson, 2012), discusses a humanistic-constructivist approach to teacher training that mandates rethinking. It discusses questions pertaining to the role of teacher training in engaging in social and emotional elements of online learning, which are of paramount importance at a time when human beings, especially young people, have virtual "friends" on social networks. Classroom doors are increasingly being breached due to the use of cellphones and iPads. Teachers face a situation to which they are unaccustomed, and fear loss of control in their classrooms.

Two major questions arise regarding this changing world:

- How should the teacher training system contend with this new reality?
- How can teachers be trained to be lifelong learners, on the one hand, and to gain the ability train their own students to be lifelong learners, on the other hand?

Learning in the twenty-first century requires the development of new life competencies that did not exist in traditional learning and teaching. Numerous studies demonstrate that teachers are the most important factor in their students' success (McCaffrey, Lockwood, Koretz, & Hamilton, 2003). Our basic premise is that by basing teaching on new pedagogical approaches, teachers will also experience such learning methods.

The underlying approach of teachers should be the premise that learners are capable of individual and collaborative knowledge building

(Scardamalia & Bereiter, 2003) provided that the teacher creates conditions that facilitate self-regulated learning.

## **BACKGROUND**

### **A Learning Theory That Contends with the Changes in the Information and Communications Era**

The rapid development of ICT technologies in recent years, especially Web 2.0, obliges educators to update prevailing pedagogical approaches and their implementation in the work of teachers (Merchant, 2007).

Concepts such as teaching, learning, knowledge, and understanding require a renewed conceptual frame. Siemens' theory of connectivism attempts to provide an answer to the need for a new pedagogical paradigm (Siemens, 2005). It is challenged by questions such as: What is learning in the internet age? How is personal knowledge created in the individual and collective knowledge in an organization? What elements are required for a paradigmatic change in learning theories and for updating them to the reality of the digital age?

Connectivism views the internet as the primary learning environment in the twenty-first century, and learning as a process of crossing the length and breadth of the network, and utilizing strong and weak connections with human beings and electronic resources to create personal and organizational knowledge (Downes, 2012; Siemens, 2005).

In contrast, the older and more established theory of social constructivism (Brooks & Brooks, 1993; Palincsar, 1998) emphasizes the social aspect of learning, and of the learner being part of a group of learners, but does not provide a sufficient explanation for how human beings learn and how knowledge is built via the network. According to connectivism, the individual's knowledge is distributed and resides not only in his brain, but

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