Chapter 1
LOLA:
A Collaborative Learning Approach Using Concept Maps

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ABSTRACT

The Online Learning Laboratory, LOLA, is a collaborative learning methodology for classroom-based and distance learning that was defended in a PhD thesis and used in several subsequent research studies. In this chapter the author describes the first results of a case study undertaken with students on a postgraduate course in education. A further activity (the construction of a concept map) was added to the six activities in LOLA, and its inclusion was the object of this study. The methodological approach used in this research was a case study with an exploratory objective. To answer the questions raised in the study, a new review of the literature related to the following subjects was carried out: restructuring, implementing and following up the online learning laboratory methodology using concept maps; drawing up and applying a questionnaire; and analysis and discussion of the data obtained. A non-probabilistic convenience sample was used. Their analysis and preliminary considerations focus on the data gathered from the students.

INTRODUCTION

At the same time as the virtualization of teaching represents a challenge for education in the 21st century, the use of Virtual Learning Environments, whether to support classroom-based teaching or develop distance-learning courses, also represents a possible response to the need for continuing teacher education.

For Siqueira (2005, p. 190) "the Internet is not a passing fashion, fad or craze, as some of its more radical critics believe. It has come to stay. And it is evolving at incredible speed." While the Internet and virtualization of teaching are an established fact, it should be borne in mind that the mere use of information and communication technologies in the teaching-learning process does not in itself guarantee a quality process. In this scenario, a need therefore arises to seek new educational models that

are able to meet the demands of the educational community.

This need led to the development of the Collaborative Learning methodology known as the Online Learning Laboratory (LOLA), the aim of which is to ensure that the subject develops an independent, critical attitude to the production of knowledge. This concept was developed in a doctoral thesis in 2002, and in the six years since then it has been used in various postgraduate classes in education and applied in a number of later research studies. As with any innovation in the field of learning, particularly in the context of virtual education, the processes involved need to be constantly reevaluated to ensure the quality of the training itself. In the case of LOLA, this was no different. In each class, experiences are reconstructed and suggestions from students and teachers are added, as there is still much to be done to develop a pedagogical approach that meets the needs of this new model of virtual education based on collective knowledge construction.

In this paper we describe research undertaken with master and doctoral students in the PUCPR Postgraduate Program, in which a further activity (the construction of a concept map) was added to the six activities in LOLA. The inclusion of this new activity was monitored and evaluated and resulted in a new study, which is described in this paper.

COLLABORATIVE LEARNING IN A VIRTUAL LEARNING ENVIRONMENT

Cooperative and collaborative approaches are frequently confused both in terms of what they mean and the concepts involved. This failure to distinguish between them may be due to the similarity between some of the principles that characterize them. Both approaches are based on active learning involving the sharing of experiences between the actors in the teaching-learning process; the combining of individual and social skills to produce knowledge; the taking of responsibility for one's own learning and for that of others; and respect for the diversity and heterogeneous nature of the members of the group (Matthews, Cooper, & Hawkes, 2004).

In spite of this and other similarities, there are fundamental differences between the two approaches. They differ in terms of the role, authority and degree of intervention of the teacher; the hierarchicalization of the teaching-learning process; the construction and assimilation of knowledge; the way in which the groups are organized; and individual and group responsibility for the activities (Matthews, Cooper, & Hawkes, 2004).

The idea of cooperation in the teaching-learning process is known to date back to classical antiquity, but it is only in modern times that it has come to acquire greater importance. Under the aegis of the Newtonian-Cartesian paradigm, cooperation has lent itself since the 18th and 19th centuries to professional education and the preparation of students for life in society. Because it leads to more structured, controlled activities through a more hierarchical process, cooperation has very often been used as a technique for group work.

In the beginning of the 20th century, with the emergence of the movement known as the New School, the concept of cooperation gained strength. Various educators in this movement, such as Profit, Freinet, Cousinet and Ferrière, started to include cooperative activities in their methods. Particularly worthy of note is the work carried out with cooperative groups by Dewey, who proposed that citizenship and democracy should be exercised by means of work in groups and interaction with fellow students.

As early as the first half of the 20th century, some researchers, such as Koffka, Lewin, Deutsch, Piaget and Vygotsky, were introducing ideas related to cooperation and collaboration into their theories. Later, Suchman and Bruner carried out research into inquiry learning, and Skinner investigated programmed learning and behavior modification, corroborating the discussions about

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