

## Chapter 31

# The Utilization of Concept Maps as Knowledge Systematization and Text–Authoring Tools in Collaboration–Based Educational Processes: The LOLA Experiment

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### ABSTRACT

*More than forming technically competent professionals, universities face a new challenge: doing so under specific principles that can only be achieved by developing competencies and abilities that are extremely valuable for today's work market, such as being able to work in groups, being aware of the many possibilities of facing and solving problems, being open to constant negotiations and readily-adaptable to new work scenarios. The best way to develop such abilities and competencies is in the contexts in which they will be demanded. The incorporation of building concept maps to a teaching-learning methodology developed for a virtual learning environment of a respected Brazilian University was a successful experiment, one whose positive results in encouraging and developing such competencies and abilities deserves to be presented and discussed, which is what we intend to do in this chapter.*

DOI: 10.4018/978-1-60960-762-3.ch031

## INTRODUCTION

Today's work market demands universities to engage in a new kind of educational process, one that ensures the formation of a professional with strong ethical principles, multiple technical competencies, capable of working in groups and readily-adaptable to new situations. In order to enter and stay in the market scenario of the early 21<sup>st</sup> century, this professional needs to develop a series of abilities and competencies, such as autonomy, problem-solving attitudes, adaptability and flexibility when facing new tasks and challenges, agility, accountability and a disposition for learning continuously.

Facing such challenges, the educational system has shown difficulties in developing adequate educational models that can meet all – or most of the – aforementioned demands. The lack of clear and coherent definitions, by all pedagogical actors involved in presential or distance education (DE) programs, of the pedagogical approach that each one adopts and presumably follows – in both theoretical and practical forms – clearly adds to these difficulties.

If we survey the actors responsible for creating and offering courses in both undergraduate and graduate levels, their answers about the methodological approach they use we will almost invariably point to something perceived as *critical-thinking-based teaching*. Interactivity, cooperation, collaboration, dialogism, information exchange, knowledge production and group interaction are constants in their discourse and written projects, though very few programs actually present pedagogical activities rooted in such principles. What we usually come across is the uninformed use of such terms and a daily practice that does not even closely mirrors their core meanings. It is rather common to find out that most of such projects, contradictorily to all their innovative discourse, simply rely on transmitting information, being the use of computers nothing

but a smoke curtain that hides deep theoretical inconsistencies (Bochniak and Torres, 2003).

Even as virtual universities<sup>1</sup> develop DE programs based on media convergences, there still are many challenges to the actual “virtualization of learning”. Students' geographic dispersion, the physical separation between teacher and students, the feelings of isolation and lack of motivation that result in poor involvement in online activities are important barriers to DE programs. These factors, added to the need of careful planning of all stages of the educational process, use of information and communication technologies (ICT), lack of teacher involvement and control over the course's syllabus, worries about appraising learning results and the design and application of control methods – prizes or sanctions – have all been determinants for many programs' choices of old-school behavioral or technical approaches: the honest – though constantly misleading – desire of having students thread previously tested paths toward the proposed objectives (Torres and Marriott, 2006).

The need for overcoming common barriers caused by traditional teaching models applied to virtually-mediated programs led to the development of a methodological approach based on collaborative learning called On Line Learning Laboratory (LOLA, in the Portuguese acronym), whose objective is that the participants, especially students, develop a critical and autonomous – however mainly collaborative – attitude toward the knowledge producing and sharing process. Such proposal was formulated and published in a Doctoral Thesis in 2002, and throughout the last eight years, it has been used with many DE and traditional, in-school graduate program groups, both in formal and informal schooling scenarios.

As with any innovation in the field of teaching and learning, especially in the context of virtual education, a constant evaluation of processes and results is necessary. With the LOLA, it was no different; each experience is renewing, and the whole project undergoes constant modifications from participants' feelings and contributions. It

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