

## Chapter 16

# Using Concept Mapping to Improve the Quality of Learning

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### ABSTRACT

*The European Higher Education Area, created to contribute to the development of quality education and encourage cooperation between Member States of the European Union, has created an opportunity for reflection on teaching methods in universities. These circumstances provide momentum for the use of learning strategies. Along these lines, this chapter presents work done on concept mapping, one of the methods that could significantly help prepare both students and teachers for the new roles expected of them. The results of two lines of study are presented: on the one hand, research that analyses the influence of the differential use of concept maps on the quality of learning; and on the other, an innovation in the use of concept maps in a course developed in the area of initial teacher training. Both initiatives serve to highlight increased interest in concept mapping in the field of learning and especially in collaborative learning.*

### INTRODUCTION

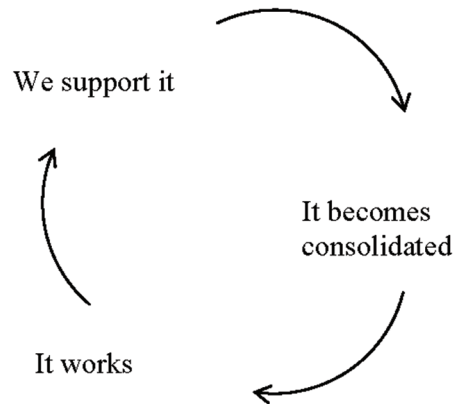
The European Higher Education Area was created to contribute to the development of quality education by encouraging cooperation between Member States through a wide range of actions: promoting the mobility of teachers and students, designing joint study programmes, facilitating recognition of studies abroad, establishing networks, exchanging

information and promoting lifelong learning for all citizens of the Union. A specific, quality-related goal within this framework is incorporating in-depth reflection on university teaching practices.

Such a task is not as simple as it sounds. Even though it is widely acknowledged that reflection on teaching methods is a good way to assure continuous improvement, it is no less true that every professional creates his or her own working methods which, once they have reached a stable and sustainable balance and are perceived as comfortable and satisfactory

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*Figure 1. Vicious circle representing the consolidation of procedures*



by the subject, acquire an inertia and solidity that make them particularly resistant to change.

University teaching staff are not immune to this phenomenon. When somebody finds themselves, with greater or lesser motivation, teaching classes at a university, they create their own teaching methods, often based on intuition or on their own prior experience as a student, and, once these methods have been consolidated, it is not easy to place them under scrutiny. Only a broad perspective on the part of the teaching staff, accompanied by an expressed willingness to consider ways of improvement, can break the vicious circle represented in Figure 1.

The proposal to think about teaching, from the planning process to the evaluation of learning (including its development), from the point of view of competence, obliges university teachers to enter into a process of reflection. It is not necessary to raise the issue of the quality of the teaching methods that each university, each faculty and each teacher consider to be their own; it is a matter of seeing to what extent these fit in with the new teaching needs arising out of a focus on skills.

One way of defining the teaching function of a university in this new context is by focusing on student aims: the acquisition of particular skills through the performance of learning activities related to certain contents. We consider this to be a correct interpretation of the spirit of the so-called Bologna Process, which aims to create a European Higher Education Area by 2010, when students will be able to choose from a wide and transparent range of high quality courses. Certain elements of teaching, although not new, take on greater significance: self-monitoring of learning on the part of the student and collaboration between students to facilitate collaborative learning as well as between teachers (the work of teaching skills necessarily supposes sharing aims and therefore teaching strategies).

At this moment it is especially opportune to take a deeper look at everything related to learning processes and strategies, collaborative work, regulation and self-regulation mechanisms and reflective processes for knowledge construction. It is necessary to invest in courses of action that will develop these processes and mechanisms, through research and innovation, in order to provide the

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