Chapter XVII

The Meaning and Development of KM in E-Learning According to the CARID Experience

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Abstract

Knowledge management and e-learning have many common elements: both are based on information and knowledge exchange, but the most important element marking this relation is the structure of the knowledge, necessary issue in order to organize and efficiently share the stream of information. CARID, the Academic Centre for Didactic Research and Innovation at the University of Ferrara, has developed a particular method for the representation of knowledge contexts and the support for information streaming, all based on indexes and expansible concept maps.
Introduction

In order to apply Web technologies to learning, and to offer e-learning courses, two strategies can be followed (Frignani, 2003). The first is a traditional strategy and consists of reproducing the methods of “face-to-face” training by means of the Internet. This strategy allows the creation of a virtual classroom, that is, an interactive learning situation that maintains the traditional relationship between teacher and students in a class. The virtual classroom is based upon synchronous interaction, and makes use of tools like chat-lines, audio-conferences, video-conferences, the remote sharing of a blackboard, or other software tools. Of course, this method implies the availability of a wide range of Web transmissions for both teachers and users, who are also required to respect a specific timetable. The basic feature of the virtual room is that it represents a substitute for traditional school, with the advantage of avoiding transport problems. It is best used when a group of people cannot arrange a meeting in the same room because of prohibitive expenses or for other reasons. On another hand, the replacement of a real classroom, besides implying high costs of transmission and the use of very expensive specific software, cannot really reproduce true communication like in a real classroom. All in all, the traditional strategy of applying Web technologies does not represent any remarkable development in the learning process, it does however, allow organizational problems to be solved.

The second strategy, also called pure strategy, implies a review of the method according to the opportunities offered by technological innovation. This strategy can include a development of synchronous interaction methods, which gradually distance themselves from the model of the traditional classroom; yet, it will mostly deal with asynchronous interaction. This kind of interaction is based upon the principle of the non-sharing of a timetable among interlocutors, so it is completely different from a real classroom situation where teacher and students share both place and time. This implies the need to create, by means of studies on methods and technologies, specific interaction strategies based upon the use of asynchronous communication tools, among which the simplest and best known are mailing, newsgroups, and forums.

As shown by above examples, asynchronous interaction can represent a replacement of traditional methods too. For example, the use of e-mail is not very different from the methods used at the beginning of remote distance training, which were based on mail. In this case, being cheaper and quicker, such replacement improves and optimizes the traditional method without damaging communication, as opposed to the virtual classroom with respect to a real classroom. The development of communication technologies however, especially the advanced management technologies of Web interaction, breaks new