Knowledge Management as an E-Learning Tool

Javier Andrade
University of A Coruña, Spain

Juan Ares
University of A Coruña, Spain

Rafael García
University of A Coruña, Spain

Santiago Rodríguez
University of A Coruña, Spain

María Seoane
University of A Coruña, Spain

Sonia Suárez
University of A Coruña, Spain

INTRODUCTION

The goal of educational methods is to allow the pupil the acquisition of knowledge. Even so, the way in which this aim is pursued originates four different currents of methods sorted by two criteria: (1) who leads the educational process and (2) requirement of pupil physical attendance. Regarding the former criterion, the process may be conducted either by the teacher—Teaching-Oriented Process—or by the pupil—Learning-Oriented Process. Obviously, both processes have the same aim: the interiorization and comprehension of knowledge by the pupil. But the difference between them is based on the distinctive procedure followed in each case to achieve the common goal. Regarding the second criterion, the methods may or may not require pupil attendance.

Bearing in mind this classification, four different types of educational methods could be described:

1. **Teaching Method:** This includes the already known classic educational methods, the Conductivity Theory (Good & Brophy, 1990) being the foremost one. This method is characterized by the fact that the teacher has the heavier role during education—the transmission of knowledge.

2. **E-Teaching Method:** This second type comes from the expansion and popularity of communication networks, especially the Internet. This method brings the teacher to the physical location of the pupil; one of its most important representative elements is the videoconference.

3. **Learning Method:** This constitutes a new vision of the educational process, since the teacher acts as a guide and reinforcement for the pupil. The educational process has the heavier role in this method. In other words, the teacher creates a need for learning and afterwards provides the pupil with the necessary means in order to fill these created requests. Piaget Constructionist Theory is one of the most remarkable methods for this (Piaget, 1972, 1998).

4. **E-Learning Method:** This method is supported both by learning methods and by the expansion of communication networks in order to facilitate access to education with no physical or temporal dependence from pupil or teacher. As in learning methods, the pupil, not the teacher, is the one who sets the learning rhythm.

Table 1. Functional summary of main e-learning applications

	Moodle	Ilias	ATutor	WebCT	BlackBoard	QSTutor
Course Manager	√	√	√	√	√	√
Content Manager	√	√	√	√	√	√
Complementary Readings	√			√	√	
FAQs				√	√	√
Notebook	√	√	√		√	
Search		√	√			
Chat	√	√	√	√	√	√
Videoconference						√
Forum	√	√	√	√	√	√
E-mail		√	√			√

Each of these types of educational methods may be suitable for a given context, the e-learning systems being the preferred ones in the following circumstances:

1. When looking for a no-attendance-required educational method.
2. When the pupil, not the teacher, wants to set the educational rhythm. This choice might be based on several reasons, ranging from the need of adaptation to the availability of a pupil (i.e., to achieve temporal independence), to the consideration of learning as a more accurate approach than teaching, bearing in mind a particular application context (Pedreira, 2003).
3. When the knowledge to be transmitted is to be accessible to a high number of pupils. In teaching methods, the teacher is the one who transmits knowledge and supervises the pupils; therefore, the quality of the education is influenced by the number of pupils. Nevertheless, in e-learning the core of the educational process is the relationship between pupil and didactical material, with the teacher acting as a consultant. In this way, a teacher could pay attention to a higher number of pupils without causing any damage to the quality of the education.

This article is focused both on the study of e-learning systems and on the application procedure for this new discipline. The Background section is a brief discussion regarding currently used e-learning systems and their points of view. The Main Focus of the Article section suggests a new focus for this type of system in an attempt to solve some shortages detected in already existing systems. The Future Trends section introduces some guidelines that may conduct the evolution of this discipline in the future. Finally, the Conclusion section presents the conclusion obtained.

BACKGROUND

Nowadays, there are numerous applications that are self-named as e-learning tools or systems. Table 1 shows the results of the study regarding main identified applications such as Moodle (http://moodle.org), Ilias (http://www.ilias.uni-koeln.de/ios/index-e.html), ATutor (http://www.atutor.ca/atutor), WebCT (http://www.webct.com), BlackBoard (http://www.blackboard.net), and QSTutor (http://www.qsmedia.es). Each of these applications has been analyzed from the point of view of the functionality to which it gives support. As can be noticed in the table, these applications are based mainly on document management and provide a wide range of communication possibilities (especially forum and chat) and agendas.

Nevertheless, and despite the increasing appearance of e-learning applications, the point of view of this discipline currently is being discussed. This is due to the fact that, despite the important conceptual differences that e-learning has with classical teaching methods, the developers of that type of application usually operate with the same frame of mind as with classical methods; that is, an editorial mindset. In other words, it is common to find the situation in which an e-learning application merely is reduced to a simple digitalization and distribution of the same

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