Chapter 11
The Role of the Web Technologies in Connection to the Communication’s Streamlining and Diversification between the Actors of a Learning System

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ABSTRACT
In this chapter, the authors systematically relate to the question: “What are the main ideas that should be considered when elaborating software Systems for the communication’s streamlining and diversification (CSD) between the actors of a learning system?” The broader perspective within which these ideas are debated is represented by the context that is created through the inception of what, in the specialized literature, is called social media (as a problematic universe) and Web 2.0 (as a fundamental technological universe). Naturally, the authors will not miss some considerations that highlight the impact of the phenomenon “social media” on the information systems of the near future.

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1. INTRODUCTION

1.1. The Main Thesis of the Chapter

The quality of the communication in a learning system significantly impacts on its efficiency. The state-of-the-art information technologies offer unlimited resources for the communication’s streamlining and diversification in the learning systems.

In this context, a natural problem arises: “How can we realize CSD systems that utilize the state-of-the-art technologies’ potential in an optimal manner?”

The peremptory proof that it is not easy to realize such systems is the state of things in the field of the e-learning systems (Bocu & Bocu, 2011). Mainly, the interfaces’ rigidity and the theoretical limits of the e-learning systems are two urges that direct the development of the e-learning systems to a superior level. Obviously, we speak about the rigidity of the e-learning systems’ interface when comparing them with the performances of the learning systems, in which the role of instructor is assumed by a human actor. In fact, while it is possible for some technical issues to impede on the flexibilization of the e-learning systems’ interface, the main obstacle is represented by the theoretical limits of the e-learning systems. Although they are not analyzed in this paper, it is useful to refer to these theoretical limits with the hope that they will constitute a research topic in the academia, and an opportunity for validation in the real world, with the aid of the developers of the IT tools. Therefore, the essential theoretical limitations of the e-learning systems are:

- The utilization of some communication instruments, whose syntactic virtues cannot sustain semantic constructions that are up to the complexity of the real-world communication instruments. We’ll discuss again on this matter in the section Short critical analysis of the theoretical challenges that condition the realization of the IT-based learning systems.
- The utilization of some modeling paradigms for the intelligent systems, which approximate the complexity of the human intelligences in an unsatisfactory manner.
- The absolute quantitative and qualitative difficulties that concern the speculative intelligence modeling. This is the only intelligence that is capable to methodically operate structural changes in the case of explanatory or creative demarches.

In Figure 1, we can study a more conclusive image of the challenges that relate to the intelligent systems research. In short, the nowadays e-learning systems are still unconvincing due to these theoretical barriers, whose removal requires the researchers to invent paradigms, models, procedures. Briefly, these can be referred to as next generation technologies.

Nevertheless, the e-learning systems shouldn’t be judged in a harsh manner, neither by their producers, nor by their users. Both the academia and the industrial environment make efforts in order to confer a plus of credibility and efficiency, considering all the aspects, to the e-learning systems.

With this belief in mind, in this chapter we present an approach, whose deliberately limited objective is constituted by the description of the Web technologies that are mandatory for the communication’s diversification and streamlining between the actors of a learning system.

This approach is motivated by the belief that the enormous impact of the information technologies on the human condition may find an expression space that is both interesting and useful in the field of learning systems, through the discovery of some efficient formulae for the communication’s streamlining and diversification between the actors of learning systems. What is the direction towards which the man of the future goes, provided