

## Chapter 9

# For an Intelligent E–Learning: A Managerial Model Suggestion for Artificial Intelligence Supported E–Learning Content Flow

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### ABSTRACT

*During a typical e-learning process, there are many different factors that should be taken into consideration to keep the stability of the process or improve the process to get more effective results. Nowadays, employing Artificial Intelligence-based approaches is one of the most popular ways to improve the process and obtain the desired objectives rapidly. In this sense, there are many different kinds of scientific works in order to improve the related literature. However, ensuring control among the performed Artificial Intelligence-based e-learning process is a critical point because there is sometimes a misunderstanding about employing intelligent e-learning process that running intelligent educational tools or materials does not always mean the related e-learning process will improve greatly. In order to ensure that there should be some managerial procedures focused on some aspects of the process, this chapter aims to introduce a managerial model that can be used for especially Artificial Intelligence-supported e-learning content flow in order to improve the educational process. The suggested model is usable for the educational institutions, which focus on especially Artificial Intelligence-oriented e-learning solutions, research works, and educational activities.*

### INTRODUCTION

In the context of educational developments; e-learning has an active role to improve both teaching and learning process, by combining basics of distance education approach with advanced information and communication technologies. Especially information and communication technologies give a rise to the e-learning technique as an

effective and comprehensive learning way (Zhang, & Nunamaker, 2003). In time, appearance of innovative information and communication technologies has enabled researchers to design better e-learning models, which allow both teachers and learners to improve their abilities on taking active and effective roles within educational processes. Because of unstoppable improvements along the related scientific literatures, the e-learning

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technique has been a key element for reaching to desired educational objectives in a fast and effective manner. Thus, there has always been a rapid growth in e-learning based educational environments – systems, or additional tools to support teaching and learning activities (Conole, & Dyke, 2004). It is also notable that the related growth has been proportional with the one that is seen in demand for such e-learning systems, or tools (Krishnamurthy, & O'Connor, 2013).

Nowadays, employing Artificial Intelligence based approaches is one of the most popular ways to improve the e-learning process and obtain the desired objectives rapidly. In this sense, there are many different kinds of scientific works in order to improve the related literature. However, ensuring control among the performed Artificial Intelligence based e-learning process is a critical point because there is sometimes a misunderstanding about employing intelligent e-learning process that running intelligent educational tools or materials does not always mean the related e-learning process will improve greatly. In order to ensure that there should be some managerial procedures focused on some aspects of the process.

Like any other educational techniques, or approaches; the e-learning technique also includes some factors, which determine its stability, quality, or effectiveness along a teaching – learning process (Alexander, 2001; Capece, & Campisi, 2013; Lim et al., 2007; Ong et al., 2004; Selim, 2007; Sun et al., 2008). These factors are vital ones among e-learning processes; even Artificial Intelligence oriented solutions are employed. Because of this, ensuring a desired intelligent e-learning process is depended on controlling the related factors carefully. Taking these factors into consideration enables us not only to keep the stability of the process but also improve it to get more effective results at the end. At this point, some people, who are especially Artificial Intelligence experts, or computer programmers have an important role to ensure effective educational processes in the light of intelligent approaches. According to this perspective, organization of e-

learning course contents or any task that is included in this concept can be evaluated as a vital point directly affecting the intelligent e-learning process. If intelligent e-learning course contents are directly produced by the educational institution, it is also an important issue to control the whole mechanism including some tasks like planning the Artificial Intelligence related approach with the support of a wide scope of experts, producing the contents, providing the contents to the learners, and evaluating data obtained from learners. It is clear that such control approach will give a rise to a careful, and more accurate Artificial Intelligence supported e-learning content flow causing a better intelligent e-learning process.

In the sense of the explanations above, this chapter aims to introduce a managerial model that can be used for especially Artificial Intelligence supported e-learning content flow, in order to improve the educational process. The suggested model is usable for the educational institutions, which focus on especially Artificial Intelligence oriented e-learning solutions, research works, and educational activities. With its theoretical aspects, the model can be defined as a detailed approach, which is directly based on tasks associated with only intelligent e-learning course contents. Because of this, it can also be integrated into a higher management strategy or model, which is used in an educational institution.

According to the research subject, the remaining content of this chapter is organized as follows: The next section briefly explains a general perspective, in which the introduced Artificial Intelligence supported e-learning content flow model is taken place. By considering the general perspective, it is aimed to give more ideas for readers to enable them to understand the role of the model better. Following to that, the third section is devoted to the details of the introduced model. In this section, groups included in the model and tasks of these groups are expressed briefly in order to unveil the definition of the concept: “managerial model for Artificial Intelligence supported e-learning content flow”, which is associated with

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