

# Chapter 9

## How to Design an Active E–Course?

### Meta Models to Support the Process of Instructional Design of an Active E–Course

**Lilia Cheniti Belcadhi**

*Higher Institute of Computer and Communication Techniques (ISITC), Tunisia*

**Sonia Ayachi Ghannouchi**

*Higher Institute of Management of Sousse (ISG), Tunisia*

#### **ABSTRACT**

*Active Learning improves student attitudes and develops thinking and writing skills. It is increasingly recommended as a teaching method to improve learning. In this paper the authors are interested in the transformation of a face-to-face active course into a web-based active course. An instructional design approach based on meta-models for transforming active-based courses into online courses is proposed. This approach provides a detailed description of meta-models and processes of instructional design for active e-courses as well as the main involved actors. In order to evaluate and validate the proposed meta-models a case study has been carried out. It concerned the transformation of an entrepreneurship active course into an online version and its deployment. The proposed instructional design process constitutes the kernel of an authoring tool for the design of an active e-course, which permits to support the instructional designer in the production of active e-courses.*

#### **1. INTRODUCTION**

Active Learning improves student attitudes and develops thinking and writing skills. It is increasingly recommended as a teaching method to improve learning. Active learners strive to take greater responsibility for their own learning. They take a dynamic role in deciding how and what they need to know, what they should be able to do, and how they are going to do it. Examples of active learning methods include

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collaborative learning, problem-based learning, case studies, projects, simulations, and technology uses. These methods encourage student engagement with critical thinking, analysis, synthesis, and evaluation of information. Moreover, during the last few years, e-learning has been promoted in various disciplines and constituted a new way of giving courses in many universities. Various courses have been therefore concerned by an instructional design process, which enabled their transformation in an online version.

Today's instructional designers can choose from a wide variety of authoring and online development tools. With the evolution of learning technologies, expectation from outside the learning and training discipline are looking to technology to provide instructional design guidance, particularly for designers of active e-courses. Instructional design concerns courses that can be based on various pedagogical approaches such as active learning, problem based learning, inquiry based learning, etc. In particular, active learning is defined as a planned series of actions or events to invite the participant to process, apply, interact and share experiences as part of the educational process.

In order to implement the instructional design of courses we need E-learning authoring tools. These tools enable trainers to integrate an array of media to create professional, engaging, interactive training content, and some make it possible to re-purpose elements or learning objects from an existing course for reuse in a new one. Authoring tools play an important role in the overall instructional development process. Instructional designers, who may also use authoring tools, must apply their design expertise in the early stages of instructional development, and then use the authoring tools to carry out the design according to specifications.

Another important aspect to consider is the description of the instructional design process of e-courses. A possible description could be through models. A model can function as a visual and communication tool to help conceptualise complex schematics or instructional design process along with how the various activities and actors relate to each other. A meta-model has been proposed in a previous research (Belcadhi et al., 2014). It was composed of the main concepts needed in the transformation of an active course into an active e-course. During the instructional design we also need to follow a set of steps to transform courses into online versions. These steps, designed as activities, need to be described through a meta-model, which will be presented in this paper. This proposed meta-model constitutes the kernel of a tool that can assist the instructional designers of active e-courses.

In this context, and since we were the instructional designers of various online courses, we have been able to study the constraints to be considered in transforming a course based on active pedagogy into an online version. We also examined the impact of information and communication technologies on active learning, which is referred in this paper as "active e-learning". Our experience has also enabled us to identify a mapping between the concepts related to an instructional method, which are needed in active courses, and those needed in active e-courses. A step forward after this mapping consisted in proposing a comprehensive meta-model that can be used to design active e-learning courses.

To validate the proposed meta-model and the mapping for the instructional design of active e-courses, we considered the KAB (Know About Business) case study, an entrepreneurship education program designed by the ILO (International Labour Organisation). The KAB course has been transformed into an online version. A learning management system (Moodle) has been used in order to provide collaboration and communication facilities, and to combine the positive effects of active learning and online learning. This active KAB e-course has been experimented in some universities in our country.

This paper has two goals. First, it presents instructional concepts that provide guidance for instructional designers to design an active e-course. Second, it describes the instructional design process of

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