Chapter 52

Impact of Interactive Multimedia in E-Learning Technologies:
Role of Multimedia in E-Learning

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ABSTRACT

Multimedia-based technologies have significant impact on our daily life learning activities as they have shifted the education from teacher centered to learner centered. E-learning provides opportunities to people to take course online and provide a virtual classroom environment on the web through teacher learner interactions, course material distribution based on interactive multimedia. Interactive multimedia offers learners different forms of media to match their learning style, provides personalization of adaptive content delivery which enhanced learners learning effectiveness. In this chapter, we have discussed how information quality can be improved by multimedia based authoring tools and approaches, also identified the negative and positive effects of using interactive multimedia for learners in E-learning. Finally, focus was given on current E-learning multimedia technologies, their research challenges and future trends on social networking based technologies.

INTRODUCTION

E-learning is one of the important fields of research in education. The purpose of E-learning is to automate education. Various authors agreed on different definition for E-learning. (Ghaleb, 2006) defined an E-learning as a means of education that incorporate self-motivation, communication, efficiency, and technology. (Rosenberg, 2000) defined an E-learning as use of internet technologies to deliver a broad array of solutions that enhance knowledge and performance. It is concerned with use of computer and advance technology to support learning and transfer knowledge to learners by guiding them from basic to advanced concepts in particular domain, as it allows learner to learn anytime, anywhere through

various process including web based learning, computer based learning, virtual classrooms and digital collaboration. E-learning is suited to distance based and flexible learning, but also suited in conventional based learning where blended learning plays a major role. In higher educational institutes there is a need to create Virtual Learning Environment (VLE) which combined strategic and tactical planning with management information system to create a managed learning environment with help of consistent user interface as a standard throughout the organization. With the rapid deployment of growing number of universities, as well as newer online-only colleges, have begun to offer a select set of academic degree and certificate programs via the Internet at a wide range of levels and in a wide range of disciplines. Most of the orientation sessions require student to attend classroom sessions or many are delivered completely online. Most of the educational institutes offer online student portal services such as online counseling, advising, online purchasing of text books, e-distance learning, e-newspaper for student through various multimedia modes such as telephonic system, caller Id, video conferencing etc.

E-learning technologies are designed to support learning by encompassing a range of media, tools and environments. With an invention of web based and E-learning technologies the education methodology has been shifted from traditional classroom teaching to virtual or blended learning. Multimedia technologies facilitate the presentation of adaptive learning materials in different forms. These enrichments are effective in delivering personalized learning material, effective learning content to learners based on their preferences, skills and learning characteristics. An important characteristic of E-learning is to provide interactivity with help of interactive multimedia. Interactive multimedia facilitates collaborative creation through project-based learning that provides opportunities for authentic collaboration (Mishra & Ramesh, 2005). Lot of media types like collaborative networking technologies, game-based learning has been developed to enhance learner learning effectiveness and experience.

Knowledge management (KM) and E-learning are recognized as self-contained disciplines as they deals with knowledge capture, sharing, application and generation; contribute to building a continuous E-learning culture and can be decomposed into various learning objects. The major goal of E-learning and knowledge management is to promote learning and knowledge transfer. There are several theoretical approaches for connecting both disciplines. They are described in literature as KM and E-learning integration models (Maier 2016; Schmidt 2005; Islam and Kunifiji 2011; Woelk and Agrawal 2002; Sivakumar 2006; Mason 2013; Ungaretti and Webb 2011). To develop practically applicable integration solution for specific organization it is necessary to understand these integration approaches.

PROBLEM STATEMENT

How to promote learning and transfer of knowledge to different e-learning systems with interactive usage of different multimedia based applications.

OBJECTIVES OF STUDY

The objectives or aims of this chapter is

- To analyze current practices and latest trends in E-learning industry regarding the use of interactive &emerging multimedia technologies as a learning tool.

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