ORIGINAL RESEARCH PAPER

Education

E-CONTENT DEVELOPMENT: A MILESTONE IN THE DYNAMIC PROGRESS OF E-LEARNING

KEY WORDS: e-learning, information and communication technology, knowledge society

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ABSTRACT

In 21st century, educational systems are under increasing pressure to use the new information and communication technologies (ICTs) to teach students with the knowledge and skills. Today one of the greatest challenges of integrating ICT in education is lack of quality e-content. So it is the need of the hour to encourage e-content production at various levels of education. For the upcoming generation, we need to create a digital learning culture and environment. E-learning serves this purpose in its various forms such as web-based learning, computer-based learning, mobile-based learning, virtual classroom and digital collaboration. The ultimate aim of e-content development is to create an information rich society. In the process of e-learning, structured and validated e-content can serve as an effective virtual teacher. This article describes the e-content production and its necessity to enrich the e-Learning.

INTRODUCTION

In this knowledge explosion trend, production of creative contents and incorporating innovative information and communication technologies (ICT) for effective dissemination of such contents play a vital role. To develop a knowledge society, integrating ICT at all levels of education is essential. In the process of developing a techno-pedagogy for the new learner in the new environment, learning new things using new technologies, the first issue to be addressed is the development of content. The ultimate aim of e-Content development is to create an information rich society. In the process of e-learning, structured and validated e-content can serve as an effective virtual teacher. It includes the delivery of content via internet, intranet or extranet, satellite broadcast and mobile technology. This great transformation posses challenges to educators regarding their basic tenets, to deploy the media in creative and productive ways as "teachers are the central forces in tapping the learning opportunities created by ICT".

E-CONTENT

E-content is digital information delivered over network-based electronic devices. It is a combination of text, audio, video, images, animation with visual effects. Any digitalized content that can facilitate the learning process and learning outcome can be termed as e-content.

E-Content defined as learning material with relation to new media the acquisition of these contents takes place via four different channels: purchase of materials, use of freely available content on the Internet, self production of material, exchange of existing material in a network with other institutions of Higher Education freely available content on the Internet, self production of material, exchange of existing material in a network with other institutions of Higher Education.

Normally in the growth of technology applications in education, we are moving towards a Virtual Reality where the distance between the teacher and the taught is nil. The possibility of such virtual reality can be made by generating good e-Contents and accessible by all. E-contents are basically a package that satisfies the conditions like i.e. minimization of the distance, cost effectiveness, user-friendliness and adaptability to local conditions.

NATURE OF E-CONTENT

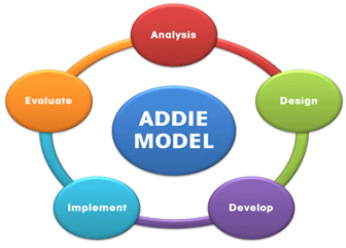
E-Content should essentially be didactic in nature. The term "didactic" refers to contents such as self-instructional material, audio and video that convey some moral, fact or learning.

Self-instructional materials try to bridge the gap between the teacher and the taught. According to Selinger (2004), "e-content should be seen as a tool to improve the understanding, engagement and motivation of learners to provide a safe environment for them to experiment and explore their conjectures and to test their understanding using novel assessment methodologies based on trial and improvement; simulations and manipulation of models". The didactic nature of e-contents seems to fulfill this condition as the learner while reading the didactic content builds an understanding and then assess that understanding using quiz or buzzles. E-Content can also be utilized as reusable learning objects. Wiley (2001) gave a working definition of learning object as "any digital resource that can be reused to support learning."

DESIGN AND DEVELOPMENTAL PROCESS OF E-CONTENT

A systematic and scientific approach is needed to develop quality content. Instructional Design is the teaching device that makes instruction as well as instructional material more engaging, effective and efficient. It is the branch of knowledge concerned with research and theory about instructional strategies and the process for developing and implementing those strategies. Instructional Design is the process of systematic development of instructional specifications using learning and instructional theory to ensure the quality of instruction. There are three learning theories (Cognitivism, Constructivism and Behaviourism) support the Instructional Design as backbone. Cognitivism envisages the organization of the content, storing and retrieving of the content. Constructivism supports the learner centered holistic approach in e-learning. Behaviorism stresses the reinforcement, retention and transfer of knowledge in the e-Content development.

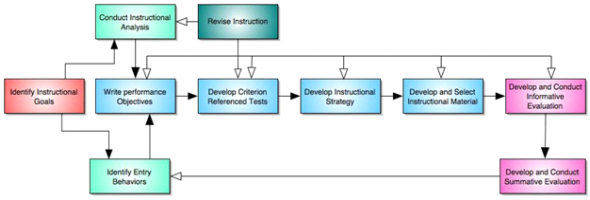
There are several approaches to explain the design and development processes of content development. Association for Educational and Communication Technology [AECT] which is a professional organization in the educational technology field in the United States, has proclaimed the five stages of instructional design that can be used to develop any learning situations and learning content, that is the ADDIE model to include Analysis, Design, Development, Implementation and Evaluation (Seels & Richey, 1994).



The interactive relationships among the stages

Dick, Carey & Carey (2005) also suggest a systematic model for designing instruction and learning content. So it is also called Dick and Carey systems approach model for designing instruction. The Dick and Carey systems approach model is a good guideline for designing instructional units at any educational levels.

The Dick and Carey systems approach model for designing instruction.



Dick and Carey Instructional Design Model

Every model has common phases in the design and development of instruction, namely planning, design, development and evaluation. The above table gives a brief description of each phase, essential activities, and management issues (Alessi & Trollip, 2001; Greer, 1992; Smaldino, Lowther, & Russell, 2007).

CLASSIFICATIONS OF E-CONTENT

I) Assembled e-Content
ii) Short Courseware/Unit/Module
iii) Full Courseware
iv) Short learning Objects.

Those can be represented in the form of e-Learning modules and Short learning objects.

According to the guidelines of University Grants Commission(UGC- India, 2007), the academic content for each of the module should comprises of

a) Home
b) Objectives
c) Subject Mapping
d) Summary
e) Text, Case studies, FAQ's
f) Video and audio
g) Assignments/Quiz/Tutorial
h) References/Glossary/Links
i) Download
j) Blog
k) Contact

BENEFITS OF E-CONTENT

1. Multi-access: The challenge part is access of information by users for which project implementers have to update the websites continuously. Adoption of technology in
e-learning not only helps the individual but also benefit multiple users at the same time.

2. Speed: Using electronic resources, Search feature has become quicker and faster to extract the page. Integration of information from one to many, cross-search reference between different publications has become little easy.

3. Functionality: Starting with content page to Index page with prominent links will user navigation skills. E-resource will also allow user to identify the publication with a single on mouse click.

4. Storage: With the increasing storage capacities and multi-variant devices, the ability to store and retrieve large amounts of information has become simple and transparent.

Various storage devices like Servers, CD-ROMs, Pen Drives, Hard Disks and Internet Bandwidth are improving their capacities to handle substantial amount of content over the web.

E-LEARNING THROUGH E-CONTENT

One of the most innovative and promising outcomes of distance learning and telecommunication relationship is e-learning. It is a process whereby teachers and students are linked up in an electronic media or computer network (Majumdar. S. and Park, M. 2002).

E-learning facilitates the learner in terms of any time learning, anywhere learning, asynchronous interaction and group collaboration. E-learning provides the possibility of teaching based on learning objects (Wiley, 2001). Learning objects are the smallest independent educational components which can be reused in e-content of different subjects and authors; thus it is more economical and time-saving in e-content development. The teaching method in e-learning has changed from being teacher-based to being student-based. Virtual environment can create pervasive and dynamic interaction through virtual simulation which will upgrade learning accompanied by hearing and seeing to practical learning and experiencing (Ataei & Najibi, 2010).

CONCLUSION

E-Content is the heart of learning and medium acts as nerves in that. Although e-content development plays a key role in e-learning, it is undoubtedly not an easy process. It requires expert knowledge in the subject area, patience in creating the necessary objects that make up quality, interactive courseware and a high sense of creativity in structuring and sequencing the topics to make a complete whole. From this, we can predict that e-Content production enrich the e-learning in a dynamic way.

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