

E-CONTENT DEVELOPMENT - THE SOURCE OF E-LEARNING

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Abstract

Education System over the world is in growing pressure to find a new Information and Communication Technologies (ICTs) to teach the students for occurring knowledge and skills, which they need in this 21st century. To develop knowledgeable society, using ICT at all levels of education is essential, especially in higher education. However, today the main problem of integrating ICT in education is lack of quality e-Content. So, we are in need to encourage e-Content production at different levels of education. For the upcoming generation, we need to create a digital learning culture and environment, digital preservation, course management systems, online education, digital library collections and much more. E-learning serves this purpose in its various forms such as web-based learning, computer-based learning, mobile-based learning, virtual classrooms, and digital collaboration. The aim of e-Content development is to create an information rich society, which are empowered to create, receive, share and utilize information and knowledge for their economic, social, cultural and political upliftment and development. 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.

Keywords: e-learning, e-content, ICT

1. Introduction

The evolution of internet and World Wide Web (WWW) has affected all part of life dramatically. Also the area of education has not remained untouched. Previously, student used to spend their time in library for searching information

in books and journals. Nowadays they use web search engines and figure out the websites containing the required information. The information sharing has become very easy due to access to Internet. This leads to the concept of e-learning. E-Learning systems typically rely on repositories of online materials that are made available to learners and teachers for access, use or re-use.

The learning materials designed based on Technology will facilitate the learners to achieve the better performance. The learning materials obviously are designed appropriately then only it can have the desired outcome of learning. In the era of technology playing a phenomenal role in the teaching learning process, there are variety of learning materials, methods and techniques available. One among them is the E-content package. The E-content package creates the avenue of independent learning. The E-content packages tend to deploy the media in a creative and productive way and to restructure the education to respond constructively and progressively to the technological and social change. The success of the E-content package depends upon the effective construction of the package. This paper focuses on the Design of the Development of E-content package based on the popular, ADDIE instructional model, ADDIE first appeared in 1975. It was created by the Centre for Educational Technology at Florida State University. The ADDIE model developed by Dick and Cary in 1978 and Russell Watson revised in 1981. The development of E-content package involves five phase (Analysis, Design, Development, Implement and Evaluation). E-content package is a unique learning tool where the students are able to learn at their own pace and visualize the content. Hence, this paper discusses on the developing and validation of E-content package.

2. E-content

E-content is digital information delivered over network-based electronic devices, i.e., symbols that can be utilized and interpreted by human actors during communication processes, which allow them to share visions and influence each other's knowledge, attitudes or behavior. It may also be defined as "Digital text and images designed for display on web pages." E-content means content in the

electronic form. It is a combination of text, audio, video, images, animation with visual effects. Any digitized content that can facilitate the learning process and/or learning outcome can be termed as e-content. 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.

3. Design of e-content package

The development of E-content package consist of five phases based on research design Analysis, Design, Development, Implementation, and Evaluation of learning materials and activities. This model procedure is given below:

4. Phases of e-content development

4.1. Analysis Phase

The analysis phase is the basic for all other phases. In this phase, we have to define the problem and identify the source of the problem and determine the possible solutions for the problem. This phase can also include specific research techniques like need analysis, goal analysis and task analysis. The output of this phase is the input of the next phase. For example we want to create an e-content to explain the types of topologies in network. So the problem is to explain the type of topologies and has to analyze why to explain the type of topology and goal of that analysis.

4.2. Design phase

The design phases using the output of the analyses to plan the next strategy to develop the instruction. In this phase e-content creator can give the outline of how to reach the goal of that e-content determined during the analysis phase and expand the instructional foundation. Some of the fundamentals of the design may include the description, conducting a learning analysis, objectives and test items, delivery system and sequence of instruction. The output of the design phase is the inputs to the development phase. For example we have to define how to demonstrate the concept of network types, how the output of the e-content was and define the instructions about the network.

4.3. Development phase

The output of the development phase builds the combination of analysis and design phase. The purpose of this phase is to create the lesson plans and lesson materials. During this phase the e-content developer can develop the package with the help of software and supporting documentation. For example in network e-content, we can use the e-content software and supporting documentation. This may include hardware like simulation equipment and software like macromedia flash.

4.4. Implementation phase

This phase defines the actual delivery of the instructions related to the environment, where its classroom based, lab-based, or computer based. The purpose of this phase is the effective and efficient delivery of instruction. This phase must promote the students understanding of material and ensure the students transfer of knowledge from the learning to setting the goal.

4.5. Evaluation phase

This phase measures the effectiveness and efficiency of the instruction. Evaluation should actually occur throughout the entire instructional design process - within phases, between phases, and after implementation. Evaluation may be Formative or Summative. Formative Evaluation is ongoing during and between phases. The purpose of this type of evaluation is to improve the instruction before the final version is implemented. Summative Evaluation usually occurs after the final version of instruction is implemented. This type of evaluation assesses the overall effectiveness of the instruction.

5. Types of e-contents

5.1. Slide show with audio

The lecture in this type can be created easily using MS-Power point. The script and slides are made in advance and the audio can also be recorded using power point. This can also be converted in Macromedia Flash or java applets

5.2. Offline Video Lectures

Lecture in this type can create an infrastructure for recording of video lectures using digital cameras. This implies video of the presenter, slide show and audio are provided to students. There are two modes to create the video,

5.3. Single camera video lecture

In this case, a single camera is used to capture the black board or demonstration given by the instructors. This video does not require the preparation of Power Point slides. The instructor can give the whole lecture on black board.

5.4. Two camera video lecture

In second technique, two cameras are needed. One of them is used to capture gestures of instructors and the other one to capture the blackboard / white board or slide projected on a screen. Finally both the videos are mixed and made as a single video. This can be done using movie maker.

Generally e-Content development classified as follows:

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

According to the guidelines of University Grants Commission, 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.

6. Some html5 e-content development software

6.1. Adobe Captivate 9

With new Adobe Captivate 9, go seamlessly from storyboarding to HTML5 based responsive eLearning design and create amazing courses that run seamlessly across desktops and mobile. Make eLearning content more mobile with full support for scalable HTML5, mobile themes, play bar, and the ability to

pause and resume anywhere, anytime, and on virtually any device. PowerPoint projects into Captivate 9 retain text, shapes, audio, and animations, when we publish them directly to HTML5.

6.2 Adapt Learning

Adapt Learning is an open source e-learning authoring tool for producing responsive e-Learning content. The framework uses JavaScript and HTML and as such offers the cross browser and platform compatibility we expect. A single build of a course will work across all supported devices and browsers, so no need to create a desktop version and then multiple versions of a native app to accommodate different mobile operating systems.

6.3. Adobe Edge Animate

With Adobe Edge Animate you can create animated and interactive content. It is easy to use and interactivity features like animation control and looping are also available. It works well on IOS and Android, as well as on desktop browsers like Chrome, Safari, Firefox, and Internet Explorer 9.

6.4. Articulate Storyline

Articulate Storyline gives users the opportunity to download the course material or lesson directly onto their iPad for offline viewing. Storyline publishes to Flash, which is supported by a vast majority of personal computers, and to the Articulate Mobile Player, a native iOS application that optimizes courses for iPads. Storyline also publishes to HTML5, an increasingly popular format for delivering content with rich multimedia and interactivity, which can be a great time saver.

7. 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/computer network. E-learning facilitates the learner in terms of any time learning, anywhere

learning, asynchronous interaction and group collaboration. 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.

8. Conclusion

Content is the heart of learning and medium acts as nerves in that. Although 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 enriches the e-learning in a dynamic way. It is said that people are visual minded. They retain 20% of what they hear. 50% of what they hear and see. And probably, 100% of what they hear and see and do. This is what e-contents are poised to do and what e-contents are intended for.

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