E- CONTENT: AN EFFECTIVE TOOL FOR TEACHING AND LEARNING IN A CONTEMPORARY EDUCATION SYSTEM

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ABSTRACT

Educational system around the world is undergoing increasing pressure to use the new information and communication technology to acquaint students with the knowledge and information, they require in this techno savvy Era. To develop a knowledge society, it is essential to integrate ICT at all levels of education system. E-content is a very powerful tool of education. It is the latest method of instruction that has attracted attention of learners and teachers of all instruction systems. It is the valuable resource for development of information rich society where everyone, irrespective of cast, religion, race, region and gender bias are empowered to create , receive share and utilize information and knowledge for their economic , social, cultural and political upliftment and development. The present research paper focuses on the assessment of effectiveness of e-Content in teaching Environment Education among the secondary school students of Vallabh Vidyanagar. The study was conducted using experimental method. The finding proved that the experimental group students were better than the control group student which was reflected in the scores gained by scores. Thus, it can be concluded that e-content proves to be is very useful tool for teaching green consumerism at secondary level.

Keywords: *e-content, contemporary education system, green consumerism.*

1 INTRODUCTION

In this knowledge explosion society to bring effectiveness in dissemination of information, development of creative contents and incorporation of innovative information and communication, technologies plays a vital role at all level of education system. For the upcoming digital generation to create a digital teaching- learning environment, mastering ICT skills and utilizing ICT is of outmost importance in every educator's profession (Molly Lee, 2005). E-content serves this purpose in its various forms such as web-based learning, computer-based learning, mobile-based learning, virtual classrooms, and digital collaboration. It is a combination of text, audio, video, images, animation with visual effects that is delivered via internet, satellite broadcast or mobile technology.

E-content has become a very valuable and powerful tool of education in this contemporary education system; it is the newest method of instruction that can be used to create an information rich society where everyone, irrespective of caste, religion, race, region, gender etc., are empowered to create, receive, share and utilize information and knowledge for their economic, social, cultural and political upliftment and development. The use of e-content has transformed teaching in several ways. In the process of e-learning, structured and validated e-content serves as an effective virtual teacher. Today, the educators are able to generate their own resources and consequently have more control over the classroom than they have had in the past.
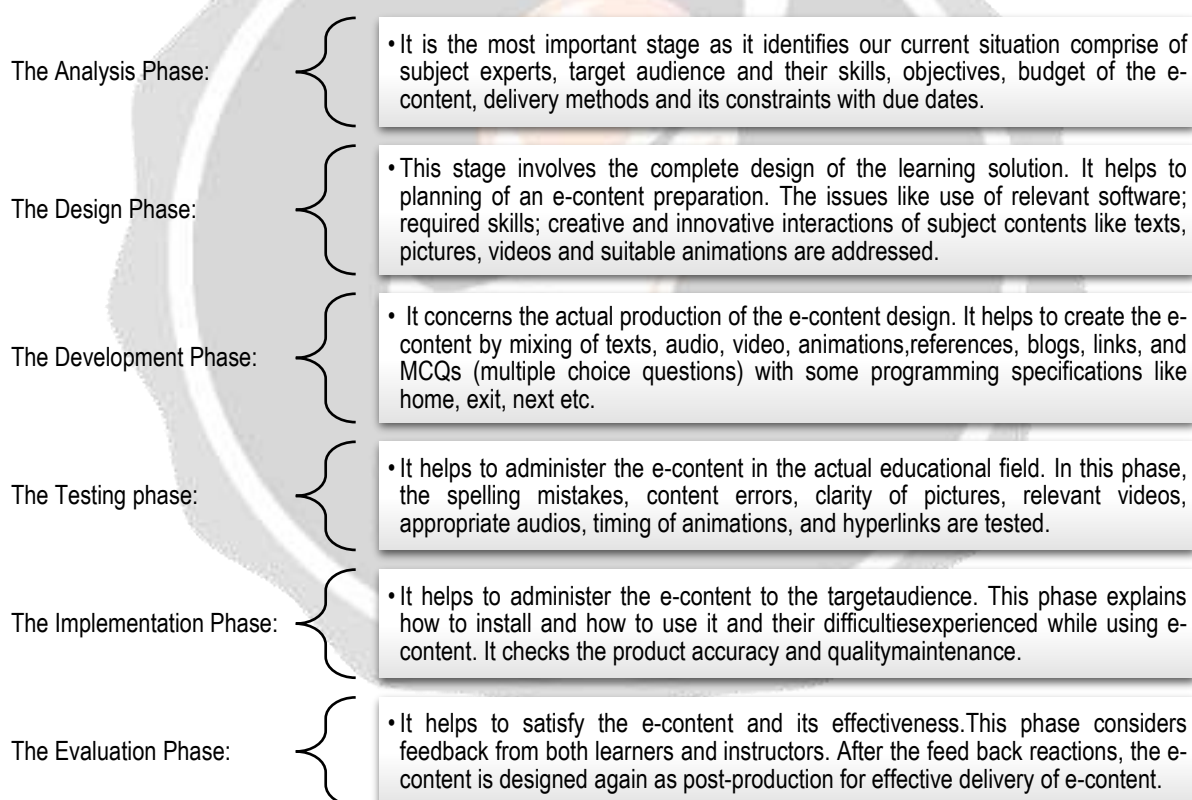
2 CONCEPT OF E-CONTENT

E-learning, or electronic learning, has been defined in number of ways in the literature. In general, e-learning is the expression broadly used to describe "instructional content or learning experience delivered or enabled by

electronic technologies" (Ong, Lai and Wang, 2004).Some definitions of e-learning are more restrictive, for example limiting e-learning to content delivery via the Internet (Jones, 2003). The broader definition can include the use of the Internet, intranets/extranets, audio- and videotape, satellite broadcast, interactive TV, and CDROM, not only for content delivery, but also for interaction among participants (Industry Canada, 2001). Holmes and Gardner (2006) point out that e-learning provide access to resources that promotes learning on an anyplace, anytime basis. However, E-learning is simply defined by Urdan and Weggen (2000), as a delivery of course content via electronic media such as Internet, Intranet, Extranet, satellite broadcast, audio/video clips, interactive TV and CD-ROMs.

3. STAGES OF E-CONTENT DESIGN AND DEVELOPMENTAL PROCESS

Unluckily, existing materials cannot be automatically transformed into e-content materials by just making them available from a website. A systematic and a scientific approach is needed to develop quality content. The e-content should follow appropriate instructional design methodology in order to assure meeting of learning objectives and expected outcomes. The effort spent in content preparation should be re-usable across various learning management systems. All the e-content materials should focuses on (a) **Cognitive perspective** that emphases on the cognitive processes involved in learning as well as how the brain works; (b) **Emotional perspective** that gravities on the emotional aspects of learning, like motivation, engagement, fun, etc.; (c) **Behavioural perspective** highlights the skills and behavioural outcomes of the learning process, role-playing, settings of job and (d) **Contextual perspective** that concentrate on the environmental and social aspects which can stimulate learning. The e-content development aspects comprise of six stages described as follows (Nachimuthu, 2012).

The Analysis Phase:
- It is the most important stage as it identifies our current situation comprise of subject experts, target audience and their skills, objectives, budget of the e-content, delivery methods and its constraints with due dates.

The Design Phase:
- This stage involves the complete design of the learning solution. It helps to planning of an e-content preparation. The issues like use of relevant software; required skills; creative and innovative interactions of subject contents like texts, pictures, videos and suitable animations are addressed.

The Development Phase:
- It concerns the actual production of the e-content design. It helps to create the e-content by mixing of texts, audio, video, animations,references, blogs, links, and MCQs (multiple choice questions) with some programming specifications like home, exit, next etc.

The Testing phase:
- It helps to administer the e-content in the actual educational field. In this phase, the spelling mistakes, content errors, clarity of pictures, relevant videos, appropriate audios, timing of animations, and hyperlinks are tested.

The Implementation Phase:
- It helps to administer the e-content to the targetaudience. This phase explains how to install and how to use it and their difficultiesexperienced while using e-content. It checks the product accuracy and qualitymaintenance.

The Evaluation Phase:
- It helps to satisfy the e-content and its effectiveness.This phase considers feedback from both learners and instructors. After the feed back reactions, the e-content is designed again as post-production for effective delivery of e-content.

4 USE OF E-CONTENT IN ENVIRONMENT EDUCATION

India is challenged by the nexus of environmental degradation and economic growth amidst the paradoxical coexistence of poverty and affluence in their multifarious dimensions. These challenges are directly linked with the conservation and maintenance of the life supporting systems such as land, water, air, and biological diversity. The ultimate drivers of environmental degradation are population growth, inappropriate technology and consumption choices, and poverty, leading to changes in relations between people and ecosystems, and development activities such as intensive agriculture, polluting industry, and unplanned urbanisation. For addressing the various environmental problems, environmental education is emerging as an essential tool to change student's commitment, motivation, stewardship, behaviour and attitudes for sustainable development (UNESCO, 2011).

In order to achieve these goals, the active teaching learning approach is widely recommended by various earlier researchers who have found that traditional class room lecture based teaching learning approach have limited effectiveness in helping students to retain information, become self-learners, and develop skills in transferring knowledge and solving problems (McLeish 1968; Davis and Alexander 1977; Saunders 1980; Bonwell and Eison 1991; Gardiner 1994; Fink 2003). Many investigation demonstrated that when students are involved in active teaching learning process, retention of knowledge is significantly increased, there is enhanced motivation and higher-order learning and development of practical skills (Grant 1997; Nundy, 1999; Cooper et al. 2000).

It is observed that teachers face variety of problems while teaching environment education, the dialogue is usually limited to the theoretical approach and the content becomes too technical and data-driven. So, even though data presentation had to be an important aspect of teaching, the main challenge is to identify a way to convert dry and factual data into an interesting and interactive format. Another challenge is that students comes from varied background. Hence, the content needs to be interactive, engaging and yet simple enough to appeal to the varied audience. However, the use of multiple learning strategies aligning to technology-aided learning, e-learning can be a very strong tool to create such teaching-learning environment. With e-content, teachers can generate their own material, incorporate more creativity in classroom teaching and thus have more control over the classroom than they have had in the past. Therefore, in order to study the Effectiveness of e-content in teaching environment education to the secondary school students the present research was taken up.

5 OBJECTIVE OF THE STUDY

To assess the significant difference between two group of secondary school students in their knowledge after exposure to chalk and talk method and E-content presentation method

6 METHODOLOGY

Experimental research design was used for the study. The sample selected for the present study consisted of 60 students of 8th standard. The samples of 60 students were divided into two groups comprising of 30 students in each. For both the groups i.e Chalk and talk method and e-content presentation method students were selected from same school. Questionnaire was used to collect the data for the present study from students. Questionnaire comprised of two sections: - Section 1 consisted of background information of the respondents. Section 2 consisted of knowledge test scale for the respondents regarding various aspects of environment education for the two methods adopted i.e. chalk and talk method and e-content developed for teaching environment education.

7 FINDINGS

7.1 The major findings are presented as follows:

One group of students were taught environment education through the use of chalk and talk method and the other group through adopting E-content presentation. After the teaching was done the students were given a questionnaire consisting of 13 statements regarding environment education knowledge given to them by the teacher using both the methods. The respondents were asked to respond on a 3 points scale in terms of correct, don't know and incorrect. For statements scores of 3 through 1 were assigned . The total numbers of statements for the entire knowledge scale were 13 and hence minimum score was 13 and maximum score was 39. Minimum and maximum possible score were divided into 3 categories on the basis of equal interval to determine the extent of knowledge into low, moderate and high category. This reflected the extent to which the respondents had knowledge.

Table: 1 Frequency and percentage distribution of the respondents according to the extent of knowledge enhancement due to exposure to chalk and talk method and E-Content Presentation

Sr. No	Range of score	Extent of Knowledge score	Chalk and talk method n=30		E-Content presentation n=30	
			f	**%**	**f**	**%**
1	13-21	Low	16	53.33	-	-
2	22-30	Moderate	14	46.66	-	-
3	31-39	High	-	-	30	100

The findings revealed that for the group where the chalk and talk method was adopted by the teacher the scores obtained were very low for more than half of the students and rest were in the moderate score category whereas for the group where E-content method was adopted all the students were in the high score category which proved the effectiveness of this method. Hence it can be concluded that the students learning can be enhanced using e-content method in classroom teaching.

8 CONCLUSIONS

E-content development is the heart of teaching learning process. 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 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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