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Management of Electronic Content development in Education

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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. Econtent 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 VallabhVidyanagar. 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 econtent proves to be is very useful tool for teaching green consumerism at secondary level.

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

INTRODUCTION

E-content, Massive Open Online Courses etc. and their availability and features. The training made her realize that the ICT has solutions to the problem she was facing in her school. Now she is empowered in such a way that she can find apt and sufficient resources for her students. She is also able to uses, reuse, revise, remix the OERs and shares them with her students, colleagues and friends. She has helped her students in getting the required latest

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books, learning material, resources and information and helped them in fulfilling their aspirations. She has now started inspiring many a teachers who are also in the same position as she was once.

Today the entire world is moving speedily towards digitization and we have to learn new things using new technologies. The evolution of computers especially the internet has affected all spheres of our life. Ten to fifteen years back we used to spend our time in the library for information in books, magazines and journals. Now a day we search for the information in the web sites. Access to information has become very easy because of information sharing on World Wide Web (www). Quality of teaching and students' learning are determined by the teachers who teach them. Well trained teachers with required knowledge, skills and commitment can develop scientific and critical thinking, promote tolerance, and develop cultural and social values in them. Innovative technologies will make it possible to achieve these by providing new ways to teachers. But these new technologies are placing more demands on teachers to learn how to use them in their teaching and learning processes. This great transformation is posing challenges to teachers and teacher educators in using technologies in creative and productive ways. Hence, we as teachers have to meet these new challenges by continuously acquiring new knowledge and skills to discharge our duties effectively.

ICT can offer tremendous opportunities for capturing, storing, disseminating and communicating a wide variety of information. Rapid expansion of knowledge and availability of variety of ICT has made knowledge, inclusion and integration of ICT in teaching and learning inevitable for us now. Moreover, ICT can promote international collaboration and networking in education and provide more flexible and effective ways for professional development. It can also help in pre-service and in-service teacher training programs. You have studied about various ICTs in the earlier units and you will be learning about e-content and Open Educational Resources.

ELECTRONIC CONTENT (E-CONTENT)

Wide varieties of digital materials which are of educational significance are available online. Some of the quality materials which are available free of cost or with minimum restrictions can be used, re-used and modified by teachers and students for their teaching and learning. As textbooks are too expansive, the students are switching from textbooks to digital

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course materials. These materials provide both teachers and students a greater interactivity and social collaboration. One of the materials which can be designed and developed used, re-used and distributed is e-content.

E-content is becoming popular because of it's flexibility of time, place and pace of learning. E-content includes all kinds of content created and delivered through various electronic media. E-content is available in many subjects and almost all levels of education. It can be used by wide variety learners with diverse needs, different backgrounds, and previous experience and skill levels. It can be shared and transmitted easily and promptly among unlimited number of users around the world. Teachers, students and others get benefited by the use of well designed and developed e-content. It is advantageous to the educational organizations to make their program accessible to their teachers and students on campus, home and other community learning or resource centers. It has a significant implications for open and distance learning institutions.

Electronic content (e-content) which is also known as digital content refers to the content or information delivered over network based electronic devices or that is made available using computer network such as internet. According to Oxford dictionary 'e-content is the digital text and images designed to display on web pages'. According to SaxenaAnurag(2011) 'E-content is basically a package that satisfies the conditions like minimization of distance, cost effectiveness, user friendliness and adaptability to local conditions'.

Designing and Development of E-content

The purpose of e-content development is to create an information rich society. Every one in the society is empowered to create, receive, share and utilize information for their progress. Very well designed, developed and validated e-content will provide access to high quality meaningful digital content and serve as an effective virtual teacher.

E-content design, development and approach will depend upon the nature of the content and the learners. It will also depend on the quality and complexity the learning you wish to create. Various instructional design models are available according to our requirements. Most of the models involve the process of analyzing the learner needs and goals of the instructional material development, development of a delivery system and

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content, pilot study of the material developed, implementation, evaluating, refining the materials etc. In designing and development of E-content we have to adopt one of the instructional design models based on our requirements. Before understanding the designing and development of e-content it is essential to understand the meaning of instructional design.

Standards of E-content

E-content standards are rules that most e-content developers should abide by. Standards are *engineering or technical specifications* that help e-content developers to establish uniformity. The different kinds of standards are mandatory, voluntary and defacto. Mandatory means one should comply, voluntary is one may or may not follow and defacto which are well established common practices but may not be formally published. Ensuring the high quality of the e-content is concerned with creating, communicating, and maintaining consistent development standards. Writing and textual, graphical and page design, questions and test, interactivity and audio/video standards and guidelines are to be ensured before finalizing. With respect to the quality of the e-content it should be correct, adaptive, communicative, interactive, reflexive, explorative, standardized etc.

Formal standards bodies such as the World Wide Web Consortium (W3C), the Internet Engineering Task Force (IETF), and International Organization for Standardization (ISO) etc publish the electronic standards. W3C is international standards organization for World Wide Web.

E-learning industry follows certain standards for integration of course ware. There are several standards available today for content integration and interoperability. International bodies generally design and publish the standards.

According to International Organization for Standardization(ISO) standards can be defined as "documented agreements containing technical specialization or other precise criteria to be used consistently as rules, guidelines or definitions of characteristics to ensure that materials, products, processes and services are fit for their purpose."

Share-able Content Object Reference Model (SCORM): It is a powerful tool. Content can be created and used in many different systems. Content can also be used in many situations

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without modification. It is the most widely used standard in all LMSs. It has applications in general usage as well as defense related uses.

Aviation Industry CBT Committee (AICC): This was the first standard to be adopted by the e-learning industry. It is still actively used in the aviation industry.

Institute of Electrical and Electronics Engineers (IEEE) IMS Standards: This enables high quality accessible and affordable learning experiences. This standard is mainly used today schools, colleges, universities, government institutions etc.

Instructional Management System Global Learning Consortium (usually referred to as IMS GLC, IMS Global or simply IMS) is a global, nonprofit, member organization that strives in shaping and growing the learning industry through community development of interoperability and adoption practice standards. Their main activity is to develop interoperability standards and adoption practice standards for distributed learning,

Learning Objects and Re-usability of E-content

The term learning object was coined in 1994 by Wayne Hodgins. It gained quick popularity among educators and instructional designers because these digital materials are designed to allow easy reuse in a wide range of teaching and learning situations. Before understanding the meaning of learning object it is essential to know the meaning of asset. In Wikipedia '**Asset** is defined as the smallest, indivisible digital unit for information transfer, e.g. a picture or a short text, a plain picture/text combination or a small and simple animation.

Learning Objects

Learning Objects are defined in different ways by different organizations and individuals. Let us consider some of the definitions of Learning Objects here.

According to Wikipedia 'a learning object is a resource, usually digital and web-based, that can be used and re-used for learning'.

According to the Institute of Electrical and Electronics Engineers (IEEE) a learning object is "any entity, digital or non-digital, that may be used for learning, education or training".Chiappe defined Learning Objects as: "A digital self-contained and reusable entity, with a clear educational purpose, with at least three internal and editable components:

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content, learning activities and elements of context. The learning objects must have an external structure of information to facilitate their identification, storage and retrieval: the metadata."DanielRehak and Robin Mason define it as "a digitized entity which can be used, reused or referenced during technology supported learning".

Learning objects are any items which have the potential to promote learning. An object which can promote learning and teaching is considered as a learning object. For example a printed book, a news paper report etc. Digital learning objects are any thing in the digital form such as learning design or whole course or other forms of resources from a set of learning out comes. These are cataloged and stored in leaning objects repositories. A learning object consists of several learning assets that are structured in a pedagogically meaningful way.

Following are some important characteristics of learning objects:

- Learning objects are a new way of thinking about learning content.
- Learning objects are much smaller units of learning, typically ranging from 2 minutes to 15 minutes.
- They are of discrete nature. Because of their discrete nature they can be categorized and stored independently
- They are self-contained – each learning object can be taken independently
- They are reusable in the sense a single learning object may be used in multiple contexts for multiple purposes
- They can be aggregated means learning objects can be grouped into larger collections of content.
- Every learning object has descriptive information. It becomes easy for identification, search and re-use.

E-content Tools

- E-content can be created in a variety of ways by using variety of tools and software. E-content development combines Content Management System (CMS) and Learning Management System (LMS). Several proprietary software, freeware, open source software, public domain software and so on are available for e-content development.

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Among available tools and software packages, Microsoft Office, Libre Office, Software Package can be used easily by the beginners of e-content development.

- **Freeware:** It can be used without any monetary charges. However, restrictions are imposed for its use, modification and redistribution. In this source code is not provided. This tool can be passed on to any one free of cost.
- **Open Source Software (OSS):** It is computer software and its source code is made available to the pubic. It is licensed with an open source license. Copy right holder provides the rights to study modify and distribute the software free of cost to anyone for any purpose. Open Source Software is very often developed in a public collaborative manner.
- **Proprietary software** is software that is owned by an individual or a company. It will have major restrictions on its use and its source code usually kept secret. These are exclusive property of their developers and can't be copied or distributed without complying with their licensing agreements.
- **Public domain software:** The copy right holder donates it to the public. It is available free of cost to every one and it can be used by any one for any purpose and only with very minimal restrictions.

Conclusion

We need innovative work in e-content material as a form of digital literacy in educational settings particularly to investigate the implications of new forms of social networking, knowledge sharing and knowledge building. And finally, because of the pervasive nature of e-content as a digital technology, the commercial interest that is invested in it and the largely unregulated content of Internet based sources; we also need to begin to sketch out what a critical digital literacy might look like. There is, in short, plenty to be done if we are to prepare children and young people to play an active and critical part in the digital future.

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