

## **DEVELOPING SKILLS IN MAKING E-CONTENT**

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### **ABSTRACT**

The demand on educational systems throughout the world to employ new information and communication technologies to provide students with the knowledge and information they need in this technologically advanced age is growing. Information and communications technology (ICT) must be integrated at all educational levels if we are to create a knowledge society. E-content is an extremely effective educational tool. All teaching systems' students and teachers are interested in this most recent form of education. It is a crucial tool for creating an information-rich society where everyone, regardless of gender, caste, or religion, has the capacity to produce, exchange, and use knowledge for their own political, social, cultural, and economic advancement. Impact of ICT can modernize the teaching and learning process. Students free feel with more interaction to others for learning their subject through ICT in the modern world. In out of school time, students are receiving more and more information about their subject and fulfilling their expectations. The traditional content delivery cannot satisfy the students because fewer senses are involved at the time of delivery. So, the modernization in the form of e-content maintains the learning outcomes more effectively. Information technology and the internet are major drivers of research, innovation, growth and social change. The expansion of the internet has altered every aspect of life, including education. A quality e-content takes a ton of originality on both an informational and technological level. The development of e-learning standards and learning objective designs are covered in this study.

**Keywords:** E-content, Information, COVID, Communication, Development, Skill.

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### **INTRODUCTION**

In the modern times, development of creative content and incorporation of innovative information and communication, technology plays a vital role at all level of education system to bring effectiveness in dissemination of information. It is crucial for the emerging digital generation to master ICT skills and use ICT to develop a digital teaching-learning environment (Lee, 2005). In its many incarnations, including web-based learning, computer-based learning, mobile learning, virtual classrooms, and

digital collaboration, e-content fulfils this goal. It is transmitted by the internet, satellite broadcast, or mobile technologies and consists of text, audio, video, photos, and animation with visual effects. E-content has developed into a very effective and important educational instrument in the modern educational system. It is the most recent approach to education that can be used to build an information-rich society where everyone, regardless of caste, religion, race, region, or gender, has the power to produce, receive, share, and use information and

knowledge for their own economic, social, cultural, and political upliftment. E-content has changed education in a number of ways. Structured and verified e-content is a useful tool in the e-learning process. Teachers now have greater power over the classroom than they had in the past since they can create their own materials.

### **1. Concept of e-content and learning**

e-content is broadly describe as instructional content or learning experience delivered or enabled by e-learning or electronic learning (Ong, Lai and Wang, 2004). e-content is valuable to the pupil and also helpful to teachers for all individual instruction systems. e-content is the latest method of instruction that has attracted more attention to gather with different concepts. The ultimate aim of e-content is to abolish the disparity among the learners through effective education. e-content is effectively facilitating the teacher. It is enhancing the learner's knowledge level which leads to creative thinking and it gives future ideas based on given links and references.

In the literature, it has been defined in a variety of ways. Some e-learning definitions are more limited than others, such as those that just include online material delivery. The more inclusive definition might encompass the usage of the internet, intranets/extranets, audio and videotape, satellite transmission, interactive TV, and CDROM for participant engagement (Industry Canada, 2001). Holmes and Gardner (2006) pointed out that e-learning provides access to resources that promotes learning on any place, anytime basis.

### **2. Characteristics of e-content**

According to Saxena (2011), the possible methods of educational e-contents conversions are:

- (i) learning by doing or learning by investigation
- (ii) learning by using themes
- (iii) learning by testing / evaluation
- (iv) learning by simulation
- (v) learning by role-playing

As per the University Grants Commission, India, the guidelines of e-content development needs the following categories: (i) home (ii) objectives (iii) subject mapping (iv) summary (v) text with pictures & animations (vi) video and audio (vii) assignments, quiz & tutorials (viii) references, glossary & links (ix) case studies (x) FAQs (xi) download option (xii) blog (xiii) contact. These categories are arranged sequentially by subject experts along with technical supporters to develop the e-content materials (UGC Guidelines, 2012).

E-learning is a process and e-content is a product. E-content is generally designed to guide students through a lot of information in a specific task. An e-content package can be used by a teacher in virtual classroom situations. The quality of learning depends not only on the form of how the process is carried out but also on what content is taught and how the content is presented.

In a classroom, technology stimulates the learner and gets the learner involved in the learning. Books are an extension of the brain, video is an extension of the eye, audio is the extension of an ear, audio conferencing is the extension of mind & vocal chords, the computer is an extension of the fusion of mind, hands & eyes, satellite technology is an extension of human reach and computer network is an extension of human co-operation. Therefore, we would anticipate from e-contents that they should be able to stimulate the learner in a way that we can fully utilise its learning potential (Vijayakumari, 2011). E-learning includes all methods of learning and teaching that are supported by technology. Information and communication technologies act as specialized media to carry out the educational process. E-content may be classified as online or offline. The online learning occurs through e-forums, SMS/MMS, search engines, metasearch engines, e-dictionaries, e-books and e-journals. The off-line learning occurs through MS Office applications, power-point

presentations, downloaded documents and using CD ROMs.

### 3. Need of e-content development

e-content development is the need of the hour. It can help in many ways. It helps in encouraging the lifelong education of individuals through assessing their knowledge at anytime, anywhere, in anything. Knowledge explosion is happening by experts every minute in the world. So, the latest concept related to the subject matter is accessible for the learners' development. Every learner has a unique individuality in the classroom. His/her needs differ from others. So the learner has to fulfill the learning needs through self-learning techniques. It helps in making the concept mapping in learners' minds by giving clear-cut conceptual delivery and ideas through e-content. It also helps in decreasing the same concept through teaching at different times without changing methods, steps, examples, vocabulary, pronunciation, and others. It is not possible by a human teacher but it is possible by e-content delivery.

### 4. Objectives of e-content

Collaboration of e-content with other methods can be done in the classroom teaching-learning process. Various objectives of the e-content are

- (i) To deliver the content via various media such as radio, television and computer.
- (ii) To increase students' concentration on the particular subject matter and in-depth learning.
- (iii) To feel emotionally good with joyful learning and active learning involvement of students during the content delivery.
- (iv) To reuse the content to various groups of the same class without hesitation and without any change.
- (v) To handle easily the facilitators during the content delivery.
- (vi) To modify the content with present time needs.
- (vii) To involve multi-senses to enhance the students learning capacity.

- (viii) To control the students in their learning capacity during content delivery.
- (ix) To cover all types of students such as below average, average, and highly intelligent students in the classroom during the learning period.
- (x) To use for auditory, visual, auditory, read/write and kinesthetic learners in their capabilities (Fleming and Mills, 1992)
- (xi) To use the content at anytime, anywhere by anyone in any corner of the earth.
- (xii) To keep the content for a long time without damaging the subject matter.
- (xiii) To train the teacher for developing effective e-contents with effective skills.

### 5. e-content designing

The e-content must follow the methodology and appropriate techniques to design content to ensure better outcomes. It requires a lot more effort to satisfy the learner's needs and meet their expectation. The effort spent in content preparation should be reusable across various learning management systems. All the e-content materials should focus on the following perspectives.

- (a) *Cognitive perspective* that involves the basic mental processes like the brain's ability to understand the concept, problem-solving, memory and reasoning.
- (b) *Emotional perspective* that focuses on both the intrapersonal and interpersonal perspectives like fun while learning, motivation, and interaction with others.
- (c) *Behavioural perspective* highlights the skills and behavioral outcomes of the learning process, role-playing and settings of job.
- (d) *Contextual perspective* that concentrate on the environmental and social aspects which can initiate and affect learning.

### 6. Phases of e-content development

There are 6 major phases of e-content development which involve all the aspects of analysis, designing, development and always have a scope of amendments (Nachimuthu,

2012). The phases involved in the development of e-content are as follows.

- (1) **The analysis phase:** It is the most important phase that involves the analysis of the current situation. It considers the views of the subject experts, target audience along with objectives and goals. In this phase, we must know the target audience and their skill, the budget of e-content and delivery techniques with due dates.
- (2) **The design phase:** It involves the complete design development of e-content. It helps to pre-plan the methodology of the e-content development. In this phase, we must know about the applicable software, required skills along with innovations in the interaction of subject matter through text, audio, videos, graphics, suitable pictures and animations.
- (3) **The development phase:** It involves the actual formation of e-content design. It is done by mixing the texts, audios, videos, graphics and suitable animations along with programming specifications.
- (4) **The testing phase:** It helps to administer the e-content in the actual educational field. We must test the mistakes and errors in the content, with proper timing of animations, clarity of pictures, relevant videos and other contents.
- (5) **The implementation phase:** It helps to deliver the e-content to the target audience. It explains how to install and use it along with difficulties experienced while using e-content. It involves the examination of the accuracy of the product and quality maintenance.
- (6) **The evaluation phase:** It helps to satisfy the e-content and its effectiveness. The phase takes into account comments from both students and teachers. Following the feedback responses, the e-content is once more tailored in post-production for efficient e-content distribution.

## 7. Approaches in e-content development

To ensure that learning objectives and anticipated consequences are realised, the e-content should adhere to the proper instructional design technique. The time spent creating the information should be reusable and free of charge. All e-content materials should focus on the cognitive perspective that emphasizes the stimulation of cognitive processes such as imagination and rational thinking. The e-content module of learning can increase the capacity of the human brain functions in different ways. This is meant that cognitive abilities or skills are supported by specific neuronal networks. For instance, the frontal lobes and sections of the temporal lobes are primarily responsible for memory functions (behind the forehead). When learning, intelligence and imagination are crucial. Therefore, e-content must stimulate the frontal and temporal lobes in certain people, improving learning experiences.

## 8. E-content, digital literacy and pandemic

Learning experience through digital literacy is divine. The American Library Association (ALA) defines digital literacy as "the ability to use information and communication technologies to find, evaluate, create and communicate information, requiring both cognitive and technical skills." Conventional kinds of literacy are not replaced by digital literacy; rather, it builds upon and broadens the foundational abilities of traditional types of literacy. It sharpens the skills and helps to work on new ideas with creativity. It proved to be beneficial in making and sharing knowledgeable content and thus should be considered to be a part of the path to knowledge. It has spread to both national and international levels. This enhances the student's engagement in learning. There are many leading platforms in the country helping innumerable students in the Country. Byjus, Unacademy, and Vedantu are among the leading platforms of online learning that have proved to be beneficial for a large number of students. Students get the required

content which is complete and easy to understand. The e-content proved to be highly beneficial in the pandemic. The information and flow of knowledge did not stop due to the making of e-content. ATechnos Group, which is a growing leader in digital and technology transformation company has announced the launch of Symbiosis Centre for Online Learning (SCOL), which will be India's first online education marketplace. This innovation will provide various courses to students through an e-learning platform. These proved to be beneficial in improving virtual communication and collaboration.

### 9. Government e-initiatives

During the COVID-19 lockdown, there was a detrimental impact on education system (Radha *et al.*, 2020). The government of India started an online education initiative that got a great response. DIKSHA portal was launched in 2017 but filled the students and teachers with excitement during lockdown days. In India, the use of tech-based solutions in classrooms by teachers inspired MHRD and NCTE to bring together these efforts to the national level and this gave rise to DIKSHA. It is a unique initiative that lifted the already present highly scalable and flexible digital infrastructures while keeping teachers in the center.

There are training modules provided on topics other than the syllabus such as mental development and inclusive classes for the teachers. It is a very useful tool of digital education that is run by NCERT today. Various e-learning platforms are provided by NCERT like e- pathshala and the National Repository of Open Educational Resources (NROER). SHAGUN portal is the combination of two words: Shala (school) and Gunvatta (quality). This portal is for online monitoring of schools. School Education SHAGUN provides information on the various resources of digital knowledge. It is an overreaching initiative to improve school Education across India. This involves creating the junction in the form of a platform of all the online portals and

websites relating to the activities of the department of school education and literacy in the government of India and all states and UTs. Central government has invested in education and concentrated a lot on e-content development. Under the mission of the National Programme on Technology Enhanced Learning (NPTEL), quality education is provided to interested learners. It is a common initiative of IITs and IISCs that provides e-learning through websites and video-based courses in the streams of engineering, science, and humanities. The mission of NPTEL is the betterment of the quality of education in our country by offering free online courses.

### CONCLUSION

Technology has immense potential to upgrade the educational system. e-content is an important part of the teaching-learning process and its making undoubtedly is not an easy process. It demands skilled knowledge in the concerned field of study along with patience and dedication. Compared to traditional teaching forms, it proved to be more interactive among learners and instructors. New methods or ideas in the development of e-content can be very beneficial for the teaching-learning experience. Conclusively, we should work harder in making the e-content before it is presented to the audience. The e-content must follow the methodology and appropriate techniques to design content to ensure better outcomes.

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