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Role of E-Learning for Creating Learner Centric Environment in Higher Education Institution in India

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Abstract

In today's society, the conventional method of teaching has been drastically changed towards learner centered process. Information communication based technology has a huge impact to this change. ICT is a collective term given to the new generation information technology spawned by a merger of computer and telecommunication and it is became a most potent forces in shaping the today's world. E-Learning is a general term used to refer to a form of learning in which the teacher/instructor and student are separated by space or time where the gap between the two is bridged through the use of online technologies. This paper tries to depict the picture of the paradigm shift from conventional method of teaching to the learned centered method of teaching using e-learning tools and ICT enable technologies. This paper also discusses the concept of e-learning and various learning management software.

Keywords:E-learning,ICT,Learner-Cantered Environment, Higher Education.

Introduction

In today's society learner is an active partner in the teaching-learning process. The traditional learning process is teacher-centered approach learning. In this kind of approach, the teacher is the expert and the dispenser of knowledge and performs most of the intellectual works in the class while the students are passive receptacles of the information provided.

Now-a-days there is a paradigm shift in learning from teacher- centered to learned-centered, where students actively involved in their own learning and role of teachers become the guides for student learning apart from being the key source of information and transmitter of knowledge. It also creates an environment that supports the individual as a complete person. It attempts to meet the individual needs of a broad range of learners who have different ways of knowledge, skill and cultural backgrounds.

Objectives of the study

1. To improve the quality of education and enhance the learning process.
2. To improve user-accessibility and time flexibility to engage learners in the learning process.
3. To provide a variety of Open Source and Proprietary LMS platforms

Review of Literature

Maheshwari, Mennu et al. (2021) investigated that perception of teachers and students pertaining to E-learning by collecting primary data through structured questionnaire drafted in two sets along with utilizing secondary sources wherever necessary. The data analysis and interpretation has been carried out with the help of percentages, mean, standard deviation, tables, graphs and figures. It has been found that teachers as well as students positively reacts to e-learning due to its feasibility,rich content, affordability, mobility and improved concentration. Also, they take it as learning opportunity in the current times. However, it suffers from the various challenges like poor internet connectivity, low accessibility to low cost and high speed internet in rural areas, language hindrance and understanding the practical subjects online and cyber security issues. It has been recommended for the measures to be taken to provide hassle-free internet connectivity, more accessibility of internet in rural areas and sustaining teacher-student relationship like conventional teaching. Sarker, Fouad Hossain et al. (2019) examined the suitability of implementing effective e-learning through learning management system (LMS) at the tertiary educational institutions in Bangladesh, and how both students and teachers experience and respond to this new learning platform. Following mixed-methods techniques, data for this study were collected from students and respective course teachers of a private university in Bangladesh by administering questionnaires and in-depth interviews. The findings of this paper reveal that e-learning has been well accepted by most of the students as they are found routinely spending time on the LMS on a regular basis for watching lecture videos, viewing course information, reading postings of the fellow students in the forum. Naresh, B and Reddy, BhanuSree (2018) explores the effectiveness and efficiency of using e-learning in the

process of teaching in higher education in India. The method of utilizing the information and communication technology is highly important in the Institutions and universities who provide quality and affordable higher education at flexible time. This paper emphasizes on the future perspective of e- learning in higher education in India, where the demand for higher education is on par with the developed countries. In 1980s e-learning was considered as useful tool for distance education alone in India. But now the scenario has changed and e-learning is emerging as the most innovative application of Internet that serves higher education as well. This study also describes the how e learning leads to higher rate of HE enrolment ratio. Bhongade, Devendra and Sarode, Yogesh M. (2018) E-Learning in Higher Education is an important issue as far as Indian Higher Education is concerned. An honest effort has been made through this paper to focus on role of e-Learning in Higher Education in India; concepts and aspects of e-Learning; trends and issues; scopes; types of e-Learning, challenges, industry-market; impact of MOOCs; benefits and advantages and future of e-Learning. Fischer et al. (2015) made an important contribution to the diffusion of digital media in higher education. The researchers found that the detailed analysis of the frequency distribution over the seven years reflects the intensity of scientific discussion towards e-learning trends, and conclusions about the didactical or technical potentials of innovations can be introduced. Specifically, they found the development potential of learning management, mobile learning, virtual worlds, e-portfolio, social media and Massive Open Online Courses are crucial for e learning in German higher education. [3]. Moravec et al. (2015) showed how e-learning tools impact students' achievement. The study was attended by nearly 2000 students. According to Moravec et al. (2015), the study compares the results of questions from the area of law where the tool was provided in a pilot version with the results of questions, where the e-learning tool was not provided. The researchers found that the e-learning tools have affected the students' results. Nevertheless, the belief of the e-learning tool may possibly have a negative effect on students who will depend on given materials was disproved. [3]. Teo (2014) investigated the key drivers of teachers' e-learning satisfaction. 387 participants in a postgraduate diploma in education completed a survey questionnaire to measure 6 constructs (tutor quality, perceived usefulness and perceived ease of use, course delivery, facilitating conditions, and course satisfaction). By using structural equation modelling, data analysis showed that, apart from facilitating conditions, all other constructs were significant predictors of e-learning satisfaction. Nevertheless, the facilitating conditions construct was found to be a significant mediator of perceived ease of use and satisfaction. The trend of using e-leaning as learning and teaching tools is now rapidly expanding into education. [3]

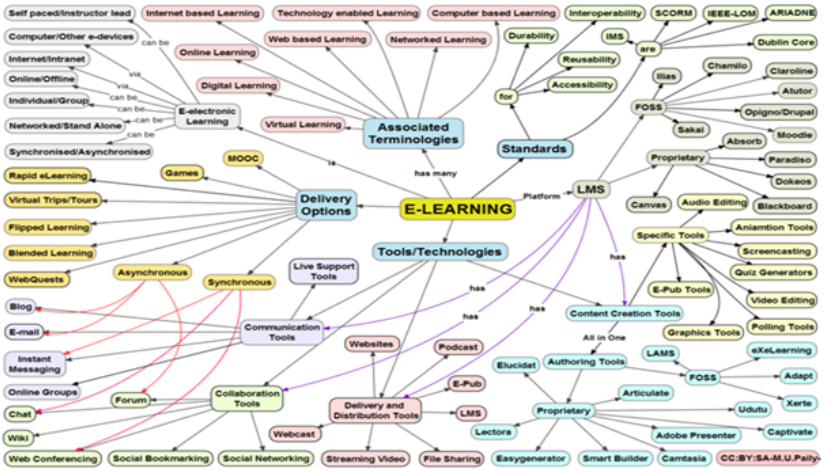
E-Learning

E-Learning is a general term used to refer to a form of learning in which the instructor and student are separated by space or time where the gap between the two is bridged through the use of online technologies.

E-learning through electronic information and communications technologies (ICTs) has the potential, involves various method which includes systematized feedback system, computer-based operation network, video conferencing and audio conferencing, internet worldwide websites and computer assisted instruction, to increases the possibilities for how, where and when employees can engage in lifelong learning.

E-learning is the online delivery of information, communication, education and training .It is an extended form of classroom teaching where learning is facilitated by the application of information technology. It is the process of education using computer, telecommunication, and network and storage capacity. In the word e- learning „e" refer to electronic where it would in corporate all educational activities carried out online or offline i.e. synchronously or asynchronously via networked or standalone computers and other electronic devices . It is defined interactive leaning concept of e-learning in which the learning content is available online and provides automatic feedback to the students learning activities. It cover a wide set of applications such as web based learning, computer based learning, virtual classroom and digital collaboration. It include delivery of content in a internet, internet / extranet, satellite broadcast, interactive television, CDRom, DVD, audio and video tape etc. [9]

E-learning in the new electronic mode of the experience of a classroom in mode of fundamental ways by augmenting traditional text book materials with online resources, lectures through use of rich multimedia and interactive content where a student feels that he actually is sitting in the classroom and can cover the topics missed by him and can extend his discussion beyond walls of classroom is a wide range of new communication platform supporting inter-classroom collaboration. [9]

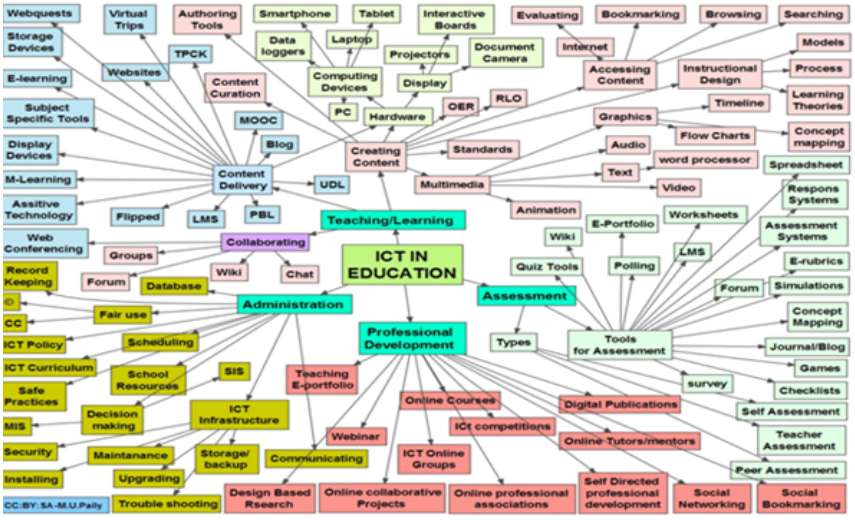


Information Communication Technology and its impact on education

ICT an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. [15]

ICT an extended term for information technology (IT) which stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers as well as necessary enterprise software, middleware, storage, and audio-visual systems, which enable users to access, store, transmit, and manipulate information.In this digital era, usage of modern technology and the advent of ICT moves our society from agrarian civilization to knowledge based civilization.

Education is one major sector which has undergone the influence of innovations in ICT. Starting from providing online content service, platform for organizing learning experiences to managing learning and assessment has been changed greatly by ICT developments. Students, teachers and educational administrators and every stakeholder in education have been benefitted by the integration of ICT in education.



Role of E-Learning in Education

The development of multimedia and information technologies, as well as the use internet as a new technique of teaching, has made radical changes in the traditional process of teaching. According to Yang and Arjomand, development in information technology has generated more choices for today's education. Educational institutions have recognized e-Learning as having the prospect to transform people, knowledge, skills and performance. According to Love and Fry, colleges, universities, and other institutions of higher learning race to advance online course capability in a speedily developing cyber education market. [10]

E-learning, has come to be more and more important in institutions of higher education. The introduction and expansion of a range of e -Learning tools has been initiating several changes in higher education institutions. [10]

E-Learning in India

E-learning has become increasingly popular across India. The Government of India (GoI) is a strong supporter of e-learning and the Department of Electronics and Information Technology (DeitY) has been actively developing tools and technologies to promote it. Specifically, DeitY has supported e-learning-focused R&D projects at various academic educational institutes throughout India. These include content development, R&D technology initiatives, human resource development projects, and faculty training initiatives to improve literacy through distance education. [26]
Ministry of electronics and information technologies has been financially supporting R&D projects in the area of E-Learning at various academic educational institutes, R&D Labs etc. MeitY, in the past, has been providing grant-in-aid for R&D projects in the area of content development, R&D / Technology development projects, Human Resource Development projects & Faculty Training to improve literacy through distance education using Information and Communication Technology (ICT) Tools (Computers, Multimedia and the Web).

During XIIth Plan R&D projects would be initiated in the area of both hardware and software development for e-learning tools, technologies and pedagogy inter alia content adaptation, personalized learning, creation of high quality interactive simulation environment, Open Educational Resources (OER), Adaptable e-Learning, Accessibility Models for the disabled, Ubiquitous Learning, Augmented Reality, gaming environment for learning for specific target groups etc. The effort would be, while developing new tools and solutions, creating impact through already designed technologies through their roll-out for use.

E-Learning R&D projects

Ministry of electronics and information technologies initiated e-learning R&D projects during Xth, XIth and XIIth plan period, some of the projects are:

1. Content generation, adaptation and distribution in m-learning environment for Mobile phone applications
2. Courseware creation for Quality Teaching of IT local Instructors using Interactive multimedia in Vernacular Languages (Bengali, Hindi, English)
3. Deployment and management of Brihaspati-3 services over NKN for Indian Academia
4. Design and Development of Context Aware Mobile assisted Augmented Reality Framework for Learning Environment
5. Design and Development of e-learning contents for e-security solution developers
6. Design and Development of Service Oriented Architecture based Standards Compliant eLearning Framework with Personalized learning Features
7. Development of a Quality Assurance Framework, Quality metrics, and prototype tool for evaluation and comparison of e-learning applications and training the teachers in e-Learning
8. Development of content delivery tools to enhance the existing experimental education technology services.
9. Development of Interactive Learning material on Introduction to Animation and Multimedia
10. Development of Personalised and Performance based E-Learning tool for existing E-resources
11. Enhancing the outreach of Electronics System Design and training through eLearning
12. ICT based Framework to enhance the teaching and learning experience in large Classroom
13. MedSim – eLearning platform for Medical Simulation
14. Ministry of Human Resource development set-up platforms for creating and developing e-learning, these are:
15. A-View
16. CEC
17. E-Kalpa' : Project On 'Creating Digital-Learning Environment For Design'
18. E-Yantra
19. National Digital Library
20. NPTEL

21. Pedagogy Project
22. Project Oscar (Open Source Courseware Animations Repository)
23. Quantum-Nano Centre
24. Spoken Tutorial
25. Swayam
26. UGC-Infonet Digital Library Consortium
27. Virtual Labs
28. Virtual Learning Environment

IX. E-Learning Platforms

An e-learning platform is a software application that integrates different management tools, communication, evaluation, monitoring, etc..with the aim of providing technological support to teachers and students to optimize the various phases of the teaching-learning process, either the educational process completely remote, classroom or mixed nature and combine both modes in different proportions.

Main Features of the e-learning plat

1. Authentication
2. Generating content
3. Viewing content
4. Different media with a teacher /
5. Carrying out activities such as tasks, group work
6. Report of the activities undertaken by the pupil
7. Evaluation tools

Open Source and Proprietary LMS platforms

Open Source

1. ATutor
2. Claroline
3. DotLRN
4. Dokeos
5. Ilia
6. Moodle

Proprietary

1. Blackboard
2. LMS QSt
3. Saba

Limitations

There are some barriers:

1. Usability issues (for both the faculty and the students)
2. Access to and comfort with the Internet
3. Proper time management
4. Design issues
5. Giving more importance to the interface compared to the actual content.
6. Copyright issues (where plagiarized materials are freely uploaded).
7. Lack of well planned learning objectives.
8. Ineffective mentoring and peer-to-peer knowledge transfer.

Conclusion

To make certain that e-learning is effective; the study materials have to be validated for construct, content and pedagogy. Further they must be:

a. Easily accessible.
b. Easy to download.
c. Easy to understand (written in a language suited to the level of the students).
d. Learning objectives should be clear and the course designed to meet those objectives (good planning is a must).
e. Another important aspect is that of “effective designing” that stresses more on “usability”.

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