



THE STUDY ON GOVERNMENT INITIATIVES FOR PROGRESS OF E-LEARNING AT HIGHER EDUCATION LEVEL IN INDIA

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ABSTRACT :

In today's era, adopting new inventions and technologies is essential in any field. Information and Communication Technology (ICT) is one of the most influential aspects of modern technology. E-learning is a part of ICT and has become a major topic of educational research. Higher education in every country aims to make the people of the country educated and skilled. E-learning education system has brought significant changes in the education sector in India at all levels. Hence flexible and accessible learning opportunities are available to the students. The Covid-19 pandemic accelerated this change and prompted educational institutions to adopt online learning methods to ensure continuity. E-learning system has also made remarkable progress in the field of higher education. Although, India is a developing country, adoption of e-learning system can be considered as imperative in India due to the recent covid-19 pandemic. E-learning has been successfully adopted in India during this period (2020-21). Government of India has undertaken several steps for progressing e-learning system in India. **The aim of this research paper is to study the concept of e-learning, government instantiates for progress of e-learning in higher education in India and to understand the challenges in implementation of Government initiatives in E-learning system at higher education level in India.**

KEYWORDS : E-learning, ICT, Distance Learning,

INTRODUCTION :

The concept of e-learning was first used in 1995. It was known as "Internet Based Training". Later it came to be called "Web Based Training" followed by "Online Learning" due to the influence of continuously developing technology. Today it has come to be known as a popular concept called 'e-learning'. The alphabet 'e' in the word 'e-learning' stands for 'electronic'. Thus the system of learning with the help of electronic devices is called e-learning.

In the modern education system, computers and internet are playing an important role in speeding up and facilitating the learning process. Both of these are foundational elements of Information Communication and Technology [ICT]. Consequently, e-learning is the process of facilitating and supporting learning through information and communication technology.

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[Jenkins and Hansen- 2003]. The term e-learning was firstly introduced in 1995. It was known as “Internet Based Training”. Later on as per impact of always developing technology; having progressive results, it was called as “Web Based Training” thereafter, “Online Learning”. Today it is finalized with a popular concept- “e-learning”. The alphabetic “e” in the word “e-learning” stands for “electronic”. Thus, learning with the help of electronic devices is called as e-learning.

In modern education system, a computer and internet are playing a vital role for enhancing quickness and simplicity in learning process. These both are prime factors of Information and Communication Technology [ICT]. Consequently, e-learning refers to learning facilitated and supported through Information and Communication Technology.[Jenkins and Hanson- 2003]. E-learning is a multifaceted learning system. It uses different methods to carry out the work of learning and teaching in different ways. E.g. Panel discussions, student and teacher presentations, presentation of assignments, feedback from students, 360⁰ Performance Appraisal System for Teachers, recording for future, workshops, multiple tests, lectures by experts from distant universities, case studies, projects, remedial teaching, training. Absent, dissemination of instructions, easy assessment methods, online objective test, dissemination of student prepared projects, experiments, e-merged learning workshops etc. 3D graphics are used to create various models of science and mathematics. Hypermedia, interactive multimedia, multimedia presentations, virtual reality communities, personal information management programs, departmental information management programs, documentation of learning materials, etc. also find increasing applications in the higher education system.

RESEARCH METHODOLOGY :

a) Objectives :

1. To study and understand the concept of E-learning.
2. To study various initiatives undertaken by government for progress of E-learning in higher education in India.
3. To understand the challenges in implementation of Government initiatives in E-learning at higher education level in India.

b) Literature Review :

(2021) Piyush Joshi1 , Dr. Shweta Dewangan have conducted a study on Impact And Development of Online Education (E-Learning) In India. Their study revealed that in future education system in India will be replaced by e-learning. Government has to undertake responsibility to expand the scope of e-learning. Further it is necessary to focus on marketing of e-learning in India.

(2023) Prof. G. Janakiramaiah has conducted a study Efficacy of E-Learning in Higher Education and its Challenges in India, his study disclosed that, the emerging trend of adaptive learning has demonstrated potential benefits for higher education. The utilisation of e-learning is contributing to a rise in the proportion of literate individuals within the overall populace of India. E-learning is a crucial component in the advancement of education, serving as a catalyst for growth within the educational sector.



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- c) **Data Sources** : This research paper is based on the secondary data collected from research papers published in national and international journals, articles, data published by related institutions, websites etc.

INTRODUCTION TO CONCEPT OF E-LEARNING :

Definition of E-Learning:- E-Learning Strategy Task Force (2002) U.K. defines 'e-learning' as “a relatively new tool with the potential to radically improve participation and achievement rates in learning. Benefits include; The ability to customize learning to an individual's needs and the flexibility to allow the individual to learn at their own pace, in their own time and from the physical location that best suits them”.

In the modern era, e-learning can be defined as a course conducted over the Internet in a location other than the classroom where the teacher is teaching. Sometimes it is delivered live, where students can participate with electronic devices and learn and interact in real time. Sometimes it is a pre-recorded lecture. Its importance is more in relation to acquisition of education both formal and non-formal. It overcomes time, attendance and travel constraints. Thus, today e-learning has become a very broad and complex concept.

E-learning is an educational system. It uses electronic media and technologies such as the Internet, intranets, extranets, satellite broadcasts, audio/video tapes, interactive television, CD-ROMs, and video conferencing. The main objective of an e-learning system is to disseminate and cultivate educational content, promote and facilitate educational experiences. Different concepts of e-learning have been introduced as; Technology Based Learning (TBT), Computer Assisted Learning (CAL), Computer Based Learning (CBL) and Technology Enhanced Learning (TEL) etc. The components of e-learning include the following basic components.

- 1) Content delivery methods (live broadcast, video on demand and interactive)
- 2) Authoring tools (software products for creating educational content)
- 3) Learning Management System (LMS) (learner can track individual progress and performance)

E-LEARNING AND HIGHER EDUCATION :

E-learning has become an increasingly accepted concept in the field of higher education. The main reason for this is the interdependence of post-secondary students, part-time or full-time work, as well as parental responsibilities. E-learning seems to be more convenient than the traditional classroom method as the facility of self-paced learning is available. Even prestigious universities like Harvard and Oxford have offered courses through e-learning, allowing students to access learning materials even when they are away from physical campuses. Across the world e-learning is sharing resources, with 67.82% of students using it. 34% of undergraduates consider quality of faculty to be the most important factor when choosing an online course. 50% of students enrolling in online courses are millennials and one-third are Generation X.

E-LEARNING IN INDIA : AN OVERVIEW

According to a recent study, India ranks second in online course enrollment in online learning programs globally, after the United States, with more than **1,55,000** students in the



country. Of the total of 1.2 million students studying online worldwide, 32% are from the US while 15% are from India. Today in the higher education system in India, efforts are being made to create a Virtual Learning Environment (VLE). In that all aspects of the course are managed through a consistent user interface across the organization. Some of these courses have been started in India. Many universities offer online services to students such as online registration, e-counseling, online textbook shopping and student newspapers. Hence, Live online classes are helpful to overcome the unavailability of adequate qualified teachers. For the same E-learning tools such as online video streaming and virtual classrooms are used effectively. E-learning is the best option for effective and organized classroom learning. E-learning makes it easy to teach students who are academically challenged. Also, for academic programs with additional number of students, it is easy to teach through e-learning. Computerized assessment system can be used for academic assessment of such students. Physically challenged students can study from home through e-learning study material. Although e-learning is an audio-visual and effective medium of education, it has some limitations. It has been observed that there is a group that opposes the concept of e-learning. On the other hand, some oppose classroom learning and advocate self-learning through the use of computers and other e-materials. It is also observed that countries where technical education is expensive, opportunities are limited and economic disparities are opposed to online education.

INITIATIVES UNDERTAKEN BY GOVT. OF INDIA FOR DEVELOPMENT IN HIGHER EDUCATION :

Following are some important government initiatives undertaken for the progress of e-learning at higher education level in India.

[1] **SWAYAAM (Study Webs of Active Learning for Young Aspiring Minds)**: As an important part of the 'Digital India' initiative, the Government of India has taken a major step towards 'Massive Online Open Courses (MOOCs)'. Ministry of Human Resource Development (MHRD) launched the initiative 'SWAYAM' to create an integrated platform and portal for online courses. SWAYAM is a comprehensive initiative of the Government of India, based on three core principles of education policy: **Access, Equity and Quality**. The initiative aims to make high-quality education resources accessible to all, especially those students who have been left behind by the digital revolution and have not been able to join the mainstream of the education. SWAYAM works to bridge the digital divide, making education accessible to all. Courses on SWAYAM are divided into four components. **Video lectures, downloadable/printable reading material, self-assessment tests/quizzes and online discussion forum** for doubt clearing. Special efforts have been made to enrich the learning experience through audio-video content, multimedia tools and sophisticated pedagogy. Ten national coordinators have been appointed to prepare and deliver high quality learning materials. Their department wise functions are as follows:

AICTE (All India Council for Technical Education): For self-paced and international courses

NPTEL (National Program on Technology Enhanced Learning): For Engineering

UGC (University Grants Commission): For non-technical postgraduate studies



CEC (Consortium for Educational Communication): For undergraduate education

NCERT (National Council of Educational Research and Training): For school education

NIOS (National Institute of Open Schooling): For school education

IGNOU (Indira Gandhi National Open University): For out-of-school students

IIMB (Indian Institute of Management, Bangalore): For management studies

NITTTR (National Institute of Technical Teachers Training and Research): For teachers training

INI (Institute of National Importance): For non-technical courses

[2] SWAYAM PRABHA: 'SWAYAM PRABHA' is a group of 32 DTH channels, dedicated to broadcasting high quality educational programs 24x7 with the help of GSAT-15 satellite. At least 4 hours of new content is broadcast daily, which is repeated 5 times a day. This gives students the option to choose a viewing time as per their convenience. These channels are uplinked from BISAG (Bhaskaracharya Institute for Space Applications and Geoinformatics, Gandhinagar.)

[3] National Digital Library of India (NDL India): National Digital Library of India (NDL India) provides information (metadata) of books, articles, videos, audios, theses and other digital content useful to users at various educational levels. NDL provides a single-window search facility for accessing various digital resources, thereby facilitating the use of existing digital resources.

[4] Virtual Labs: The Virtual Lab project is an initiative of MHRD, Government of India under the National Mission on Education through Information and Communication Technology (NMEICT). This project has been implemented in collaboration with twelve participating institutions, and Institute of Technology (IIT) Delhi is the project coordinator. This initiative has created a new paradigm of ICT-based education, opening new doors for remote experiments. More than 100 virtual laboratories have been developed under this project, including about 700 web-enabled experiments.

[5] E-Yantra: E-Yantra is an initiative led by IIT Bombay to disseminate education in the field of embedded systems and robotics. This project is sponsored by MHRD, Government of India under NMEICT. e-Yantra is a robotics outreach program funded by the Ministry of Education and hosted at IIT Bombay. The goal is to harness the talent of young engineers to solve problems using technology across variety of domains such as: agriculture, manufacturing, defence, home, smart-city maintenance and service industries.

[6] Talk to Teacher Program: A-VIEW (Amrita Virtual Interactive e-Learning World) is a project funded by MHRD under NMEICT, Government of India. Developed in coordination with IIT Bombay, this initiative is designed to interact with teachers. A-VIEW is being used in areas such as virtual labs, haptics, and natural language processing. Currently, A-VIEW is successfully operating in many IITs, NITs and other premier educational institutes.

[7] E-Acharya: An integrated e-content portal: The e-Acharya portal has been created to consolidate all the e-content projects developed/funded under NMEICT. More than 70 projects have been developed by various Indian organizations on this portal. It provides access to audio/video educational content, text and multimedia-rich materials through a single interface.



[8] E-Kalpa: It is known as the project 'Creating Digital-Learning Environment for Design' which is sponsored by MHRD, Government of India as a part of the NMEICT. The project aims to create a digital environment for design education.

[9] FOSSEE (Free/Libre and Open Source Software in Education): The FOSSEE project seeks to improve the quality of education by promoting the use of FLOSS (Free/Libre and Open Source Software) tools in educational institutions. It aims to reduce dependence on proprietary software in organizations. Use of FLOSS tools, development of new tools and upgradation of existing tools for educational and research needs are encouraged under the project. This project is a part of MHRD's NMEICT.

[10] VIDWAN: VIDWAN is a comprehensive database of profiles of scientists, researchers and faculty members working in leading academic institutions. This database is useful for research, collaboration and scholarly work as well as for selection of expert panels for committees and task forces constituted by various ministries and governments. Also, this database is important for monitoring and evaluation of organizations.

[11] Spoken tutorial: The Spoken Tutorial Project is part of the 'Talk to Teacher' initiative of the MHRD, Govt. of India's under NMEICT. Under this project, users are provided with a portal to learn various free and open source softwar, which is multilingual, self-contained and available anytime. This initiative has won several awards for its highly regarded educational content. It facilitates audio-video tutorials to the enrolled students.

[12] BAADAL: 'Badal' is a cloud orchestration and virtualization management software developed by MHRD under the NMEICT scheme. It is developed and maintained by IIT Delhi and accelerates the development and deployment of e-governance applications for educational needs. Also, ensures best utilization of infrastructure.

[13] Global Initiative for Educational Networks (GIAN): GIAN is an initiative launched by the Government of India to harness the talent of scientists and entrepreneurs internationally and promote their collaboration in higher education institutions in India. It aims to improve global quality in the higher education sector in India. It has facilitated 2163 courses with foreign faculty members.

[14] SAKSHAT- A one-stop education portal: SAKSHAT portal was launched on 30 October, 2006 by the President of India. It aims to facilitate lifelong learning from students to teachers as well as individuals looking for free education. Content development for this portal is done through a 'Content Advisory Committee' (CAC), which includes experts from Kendriya Vidyalaya Sangthan (KVS), Navodyaya Vidyalaya Sangthan (NVS), National Institute of Open Schooling (NIOS) and National Council for Educational Research and Training (NCERT). It aims to meet the education needs of more than 50 crore people. It includes connecting higher education institutions through cyberspace, creating high-quality knowledge modules through e-content, meeting the individual learning needs of individuals and creating human resource capacity and profile databases.

[15] Atal Ranking of Institutions on Innovation Achievements (ARIIA): ARIIA is an initiative of the MHRD for systematically rank all higher educational institutions and universities



in India on indicators related to innovation and entrepreneurship development amongst students and faculty.

[16] NPTL (National Programme on Technology Enhanced Learning): It is a joint venture of the IITs (Indian Institute of Technology) and IISc (Indian Institute of Science) formed and funded by the Ministry of Education (MoE) Government of India, and was launched in 2003. It is a project of MHRD initiated by seven Indian Institutes of Technology (Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati and Roorkee) along with the Indian Institute of Science, Bangalore in 2003, to provide quality education to anyone interested in learning from the IITs. The main goal was to create web and video courses in all major branches of engineering and physical sciences at the undergraduate and postgraduate levels and management courses at the postgraduate level. Initially it was started as a project to take quality education to all corners of the country. It now offers close to 600+ courses for certification at every semester in about 22 disciplines.

[17] OSCAR: OSCAR provides a repository of web-based interactive animations and simulations as learning objects for science and engineering at the college level.

[18] Virtual Learning Environment (VLE): VLE is an online environment of e-resources launched by the Institute of Life-Long Learning, University of Delhi, for many disciplines at the undergraduate and postgraduate levels. It is a unique and innovative initiative to give students and teachers a day-to-day experience of opportunities and materials. The framework provides several collaborative tools based on Web 2.0 to meet various needs of teaching and learning community.

[19] SOS Tools: The project analyzes computers and computing systems, teach students to use open source software and develop simulation tools. The objective of this initiative is to reduce the unnecessary expenditure of institutions, teachers and students on educational software, simulation software and e-learning software. For this, emphasis is placed on providing and maintaining affordable, cost-effective and high-quality software and simulation tools. This software and simulation package includes useful tools for e-learning and problem solving of students in science, social science, engineering, management, and related disciplines.

[20] E-PG Pathshala: E-PG Pathshala is an initiative implemented by University Grant Commission (UGC) under NMEICT of Government of India. The project aims to provide high-quality, curriculum-based and interactive e-content in over 70 subjects.

CHALLENGES IN IMPLEMENTATION OF E-LEARNING INITIATIVES IN HIGHER EDUCATION IN INDIA

Online education at higher education level in India include several challenges. Some of the important points are pertaining the same are as follows:

- ☒ **Lack of Awareness:** There is a **lack of awareness** of the e-learning among many students and parents. In urban area adequate e-learning facilities are available but due to this barrier it is difficult to improve and implement e-learning process.
- ☒ **Lack of Computer Literacy :** In India about 70% population is staying in rural areas. Many parents and students are **illiterate about use of ICT, computer and internet.**



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- ❑ **Lack of Infrastructural Facilities** : Many educational institutions are willing to adopt e-learning; but due to **non availability of adequate Infrastructural facilities along with the problem of digital gap divide** unable to adopt e-learning. This is the major challenge in e-learning development process.
 - ❑ **Lack of Internet Connectivity** : The government is attempting to improve latest communication systems and new technologies; such as 4G, 5G internet facilities. But except major cities, it is still on waiting in rural as well as semi rural areas. Due to **lack of speedy internet** (basically in rural area) E-learning becomes tiresome.
 - ❑ **Lack of high quality e-content** is another major issue. It requires enormous finance. Many educational institutions are unable to expend such amount due to less funds. Besides lower quality e-content leads to poor performance of e-learning by stakeholders.
 - ❑ **Lack of Self motivation** : For digital learning to be effective, students need to discipline themselves and focus on learning. It is very important in succeed over objectives of e-learning. Many students are not self-motivated for online learning. Hence it become difficult to divert them from traditional learning to e-learning modes.
 - ❑ **Economic Constraints in Rural Areas:** The economic conditions of most people in rural areas do not allow them to purchase computers or laptops, which limits the use of technology.
 - ❑ **Lack of familiarity of teachers with technology:** Lack of training of teachers is a major obstacle as they are not familiar with new technology and digital learning methods.
 - ❑ **Lack of traditional classroom:** As good traditional classroom-like teaching is not guaranteed, teachers in digital education must strive to deliver effective online learning.
 - ❑ **Lack of resources for electronic review:** There is a perceived lack of resources for examination, design of question patterns, and proper evaluation.
 - ❑ **Teaching Practical Subjects:** Subjects that require experimentation with chemicals, machine tools, and equipment are difficult to teach in digital format.
 - ❑ **Limitations of screen-based learning:** Only screen-based learning reduces students' motivation to practice.

CONCLUSION :

With the rise of ICT, the speed of internet connectivity has been a significant catalyst for the growth of e-learning. E-learning has significantly improved the level of education, literacy and economic development in underdeveloped and developing countries. Businesses in this field are expanding rapidly, with many organizations developing free online platforms to support students globally. E-learning systems play an important role in the learning process. Communication between teachers and students is no longer one-way, but two-way and interactive. E-learning has become an advanced technology tool for the development of education sector and its importance as a wheel of educational progress is increasing day by day. Indian Government has initiated diversified opportunities of e-learning education through different initiatives and digital platforms. If India undertakes joint ventures with other countries in the field of e-learning, it can play a major role in the development of the global education sector. It is also advisable that



Indian Government has to set up e-learning infrastructure in remote areas. Because it is needed in such areas. Through e-learning, new opportunities will be created and rapid progress will be achieved.

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