E-Learning Use And Integration In NEP-2020

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Abstract

Today with the age of globalization, India is also progressing with fast speed in every sphere of life. E-learning has emerged as new trend in education, as a new way of enhancing the learning process where social media may further improve the learning output. In July 2020, New Education Policy 2020 was introduced by Ministry of Education with its vision to transform and digitalize the county's education system. The policy was aimed not only to digitalize but also to universalize the pedagogy from pre to secondary school and has a particular focus on E-learning. During the pandemic of COVID-19 world has realized the required shift to E-learning when school and colleges are forced to shut down and operate online. New Education Policy 2020 urged the need to create an open, transformed, and evolvable E-learning infrastructure to solve the lack of reach and complex diversity in education system by the centre and state education bodies. With new policy, online education in India flourished and was promoted all over the country with a variety of educational software and portals for students and teacher development at all level. The expansion of E-learning with New National Educational Policy 2020 resulted in the broadening of online education to remote areas by installing appropriate network connections there as well as removing the digital divide. It is the vision of NEP 2020 to build the foundation of a new India. The policy aims to transform India's education system to provide high quality education to all and thus making India a global knowledge superpower. Integrating E-learning in our educational system through NEP 2020 can bring revolution in India's education and help our learners to keep pace with developed countries educational system.

Key words: E-learning, NEP 2020, COVID-19, digitalisation, digital divide, Integration of E-learning

INTRODUCTION

In the present time; the old tradition of classroom teaching learning has been replaced by modern trends in teaching learning whether it may be online learning; may it be a computer assisted learning or web assisted learning. E-Learning has assisted modes of learning and teaching. E-learning stands for electronic learning. During the period of covid-19 whole world has been affected by pandemic. It become difficult for all to continue the teaching learning process in normal way .During the pandemic, the world and so did India realize the required shift to E-learning when schools and colleges are forced to shut down and operate online. It became possible only with the help of e –learning resources that teaching learning continued without interrupted continue to run. E-learning has emerged as a new way of enhancing learning process where social media may further improve the learning output. In July 2020, New Education Policy 2020 was introduced by the Ministry of Education with its vision to transform and digitalize the country's education system. The policy

was aimed not only to digitalize but also to universalize the pedagogy from pre to secondary school and has a particular focus on E-learning.

Literature Reviews

Experts in education and education technology define E-learning as "the delivery of training and education via network interactivity and a range of other knowledge collection and distribution technologies" (Fry, 2000).

"E-learning is distance education through remote resources" (Marques, 2006).

"E-learning is the use of technology to deliver learning & training programs" (E-learning portal, 2008).

Sarah Guri-Rosenbilt from the open university of Isrel explored the exact definition of e-learning in her 2005 research paper "Distance Education and E-learning : Not the same things" she defined E-learning as the use of electronic media for a variety of learning purposes that range from add on functions in conventional classrooms to full substitution for the face-to-face meetings by online encounters".

According to Axia and Wang (2011),e-learning application systems are portal systems, Virtual Classroom Systems, Learning Management Systems, Resource Management systems, Multi-Media Recording systems, Bulletin Board systems and Teaching Evaluation Systems. Here portal system means e-learning portal, which not only provides unified access point for all application systems, but also the information platform; Virtual Classroom System works as simultaneously recording class content that can be automatically changed into courseware for students to download; Learning Management System includes curriculum resource management, curriculum training, curriculum collaboration; Resource Management System allows teachers to achieve issuing and collating of teaching resources by accumulating, sorting and sharing of curriculum resources; Multi- Media Recording System means recording of classrooms, conference rooms and lecture halls which can be easily embedded in web pages and courseware; Bulletin Board System platform has a campus community feature by which department managers can not only issue notices and manage information resources, but also design a home page with faculty/department's features. The teaching Evaluation System includes the teaching assessment subsystems, student learning teaching Evaluation System includes the teaching assessment subsystem, student learning assessment subsystem and teaching management evaluation subsystem. The purpose is to evaluate the performance of teachers, students and administrators in   the integrated digital learning platform.

With the help of e-Learning, teaching is not limited within four walls of classroom or institution. It empowers student to obtain a degree, certificate without physically attending school or university. The importance of e-resources has been recognised in the present time and   Government of India has started different radio and television channels for providing education. DIKSHA, NROER, NISHTHA, e-Pathshala, You Tube Channels, INFLIBNET and many other e-platforms are available to everyone. The SWAYAM PRABHA is a group of DTH channels devoted to telecasting high quality educational programmes using GSAT-15 satellite.

Types of eLearning

In order to give answer "what is E-learning" educational scientists have identified different types and paradigms of eLearning according to categories such as learning style, delivery method, educational tools and online course platforms used. The following types of eLearning   are used today:

Computer-Managed Learning (CML)

In a computer –managed learning environment, instructors use computers to provide learning objectives and access learning performance (Day & Payne, 1987).Computer managed system can fulfill several functions, including generating tests, analyzing the results of these tests, and keeping records of learners progress (Sly &

Rennie,1999).The ranking parameters used by these systems allow the learning process to be adjusted according to individuals preferences of students. Institutions also use CML system for storing and retrieving teaching aids   and tools, such as lecture information, training materials, and curricular information (Currie & Courduff, 2015).

Computer-Assisted Instruction (CAI)

It is also referred to as computer-assisted learning.CAI is a type of eLearning that uses computers together with traditional teaching. This method includes a wide variety of activities, including drill and practice, tutorial and simulation activities (Cotton,1991).These activities can be offered by themselves or supplements to traditional teacher-directed instruction. According to Tamm (2019) most online and traditional schools today use various CAI methods to facilitate skills development in students. Tamm further explains that the primary value of CAI is interactivity, as methods allow students to become more active during the learning process.

Synchronous Online learning

Through synchronous online learning groups of students can simultaneously participate in activities in real-time, anywhere they are in the world(Hrastinski,2008).This real-time interaction is facilitated by online chat and videoconferencing which allow students and instructors to interact with each other without delay. According to Tamm (2019), this type of community-oriented eLearning is one of the quickest growing types of eLearning because it eliminates the social isolation and poor teacher-student relationships common in eLearning.

Asynchronous Online Learning

Asynchronous eLearning methods allow students to study independently at different times and locations, without real time communication. This self paced eLearning approach allows students to have more flexibility in their schedules. Technologies used for asynchronous eLearning methods include emails, blogs, ebooks, discussion forums, CDs and DVDs.

Fixed eLearning

In fixed eLearning, the content used during the course of learning does not change once it is created. This means all participating students   receive the same content. The material is usually determined by instructors; as such, it cannot be adjusted to adapt the content to the student's learning pace or preferences. Because of its rigid nature, this type of eLearning is often not ideal in eLearning environments.

Adaptive eLearning

In this type of eLearning, learning materials are redesigned and adapted to fit the needs of each individual learner. Parameters such as student performance, abilities and goals are considered so that educational approaches are more student-centered & individualized. Through AI, teaching tools will also be able to identify & focus on areas where learner need improvement (Smith, 2016).

Linear eLearning

In this approach information passed from sender to receiver. The time, order and pace at which information is received are determined by sender and there is no feedback from receiver to sender. Instruction delivered through television, radio and newspaper is a classic example of linear eLearning.

Interactive eLearning

In contrast to linear eLearning, interactive eLearning enables two way communication between parties. Sender can become receiver and vice versa. Modern examples include instant messaging & discussion boards or forum. Through this easier communication model, instructors and students can modify teaching & learning methods as necessary.

Individual eLearning

In this approach, learners study the material individually and students are expected to meet learning objectives on their own. There are a no. of ways to evaluate or measure students performance. In many massive open online courses such as Coursera for instance, coursework & exams undergo automated   evaluation or peer grading (Layton, 2013)

Collaborative eLearning

This is more modern approach as compared to individual eLearning. In this method two or more students engage in learning process as a group. According to Tamm (2019), collaborative eLearning works on the idea that knowledge is best develop in a group setting, where individuals can interact, learn from each other and also pay to each other's strengths and weaknesses.

Computer based training or Web- based training

In computer based training learner can access content through media such as CDs and DVDs. CBT usually runs on learner's system, WBT. On the other hand, uses internet as a platform. With either CBT or WBT, courses are self paced and there is no interaction among instructors & learners. These delivery methods works well for adult learners who want to learn new skills.

Blended E-Learning

This type of eLearning combines face–to-face interaction and computer-mediated instruction (Bonk & Graham, 2005).This method supplements in-person instruction with technology such as collaboration software, web-based software and communication software. Littlejohn and Pegler(2007)explains that the availabilities of advanced mobile technologies, such as high bandwidth infrastructure and wireless technologies has also lent itself to extension of eLearning to mobile eLearning. Handheld computing devices are used to provide access to learning content. Though the easy availability and affordability of mobile devices, disk space, screen size and internet connectivity features must be taken into consideration with this approach (Soni, 2015).
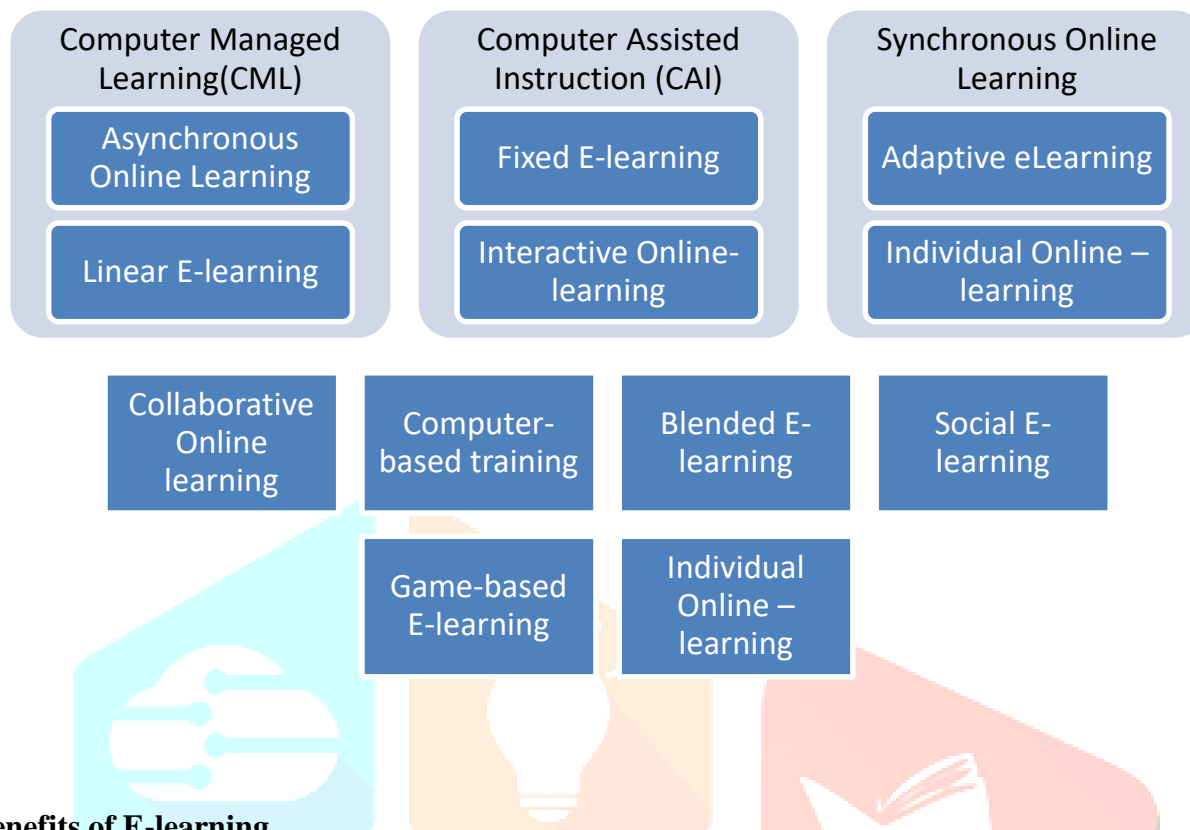
Social eLearning

It entails eLearning from and with others. This can be through direct contact (e.g. face-to-face interactions) and indirect contact(e.g. interaction on social media & discussion forums).With this, framework, social eLearning entails use of technologies such as videoconferencing and social media sites o facilitate interactions among learners. Group discussions & question and answer sessions also help to build up social interaction throughout the learning process (Aabron,2018).

Game-based eLearning

Connolly and Stansfield (2006) define game-based eLearning as the use of a computer games based approach to deliver, support and enhance teaching, learning, assessment and evaluation". Games used for eLearning are designed around specific eLearning objectives and are highly interactive to encourage complete emmersion and engagement.

Types of E-learning

Computer Managed Learning(CML)	Computer Assisted Instruction (CAI)	Synchronous Online Learning
Asynchronous Online Learning	Fixed E-learning	Adaptive eLearning
Linear E-learning	Interactive Online-learning	Individual Online – learning

Collaborative Online learning

Computer-based training

Blended E-learning

Social E-learning

Game-based E-learning

Individual Online – learning

Benefits of E-learning

There has been much research into eLearning and its benefits from perspectives of education and corporate training. Pandey (2013) suggests that there are four main benefits of eLearning that can be seen by students: learner control, accessibility, availability and personalization. With eLearning, students can learn at their own pace from anywhere and at anytime. Through delivery methods such as games and social media, eLearning also makes learning process more immersive and interactive. Online learning methods have a no. of positive effects on environment. A study by Roy et.al in 2005, done in conjuction with Britain's Open University found that production and provision of distance eLearning courses consumed 90% fewer CO_2 emissions than conventional campus-based university courses.

Integration and Use of technology in education (NEP 2020)

According to NEP 2020, technology in education will be given major emphasis. This will involve several disruptive technologies which are likely to bring major changes in the way of teaching and learning in the institutions. The vision for NEP 2020 is "Technology use and Integration" in order to give a pathway for the students to make India a digitally empowered society and knowledge economy around the globe. The integration of ICT will make the education accessible to people in remote areas of country. The technology infrastructure has a major focus on eliminating language barriers, streamlining educational management and planning, and increasing access to Divyang students.

Research and implementation of disruptive technology in higher education has been making major changes in institutions over the past few years. Online learning and distance learning is being adopted by several institution which has changed the ways of delivering education to the students which is providing access to education for the students in remote areas, unprivileged individuals, disabled students, and others. Chat-base Collaboration platforms has been introduced. Chat-based, video calling application, which gives a provision for screen sharing the presentations or digital boared is gaining large importance among the colleges.

Elimination of Digital Divide

According to NEP 2020 benefits of online/ digital education cannot be leveraged unless the digital divide is eliminated through concerned efforts, such as the Digital India campaign and the availability of affordable computing devices. It is important that the use of technology for online and digital education adequately addresses concerns of equity. Given the fact there still persists a substantial section of population whose digital access is highly limited .The existing mass media, such as television, radio and community radio will be extensively used for telecasts and broadcasts. Such educational progrmes will be made available 24/7 in different languages to cater to the varying needs of the student population. A special focus on content in all Indian languages will be emphasized and required; digital content will need to reach the teachers and students in their medium of instruction as far as possible.

Virtual Labs

Existing e-learning platforms such as DIKSHA, SWAYAM and SWAYAMPRABHA will also be leveraged for creating virtual labs so that all students have equal access to quality practical and hands-on experiment-based learning experiences. The possibility of providing adequate access to SEDG students and teachers through suitable digital devices, such as tablets with pre-loaded digital content will be considered and developed.

Pilot studies for online education

Appropriate agencies, such as the NETF, CIET, NIOS, IGNOU, IITs, NITs, etc. will be identified to conduct a series of pilot studies, in parallel, to evaluate benefits of integrating education with online education while mitigating the downsides and also to study related areas, such as ,student device addiction, most preferred formats of e-content, etc. The result of this pilot studies will be publically communicated and used for continuous improvement.

Online teaching platforms and tools

Appropriate existing e-learning platforms such as SWAYAM, DIKSHA, will be extended to provide teachers with a structured, user-friendly, rich set of assistive tools for monitoring progress of learners. Tools, such as, two-way video and two-way audio interface for holding online classes are a real necessity as the pandemic of covid-19 has shown.

Content creation, digital repository and dissemination

A digital repository of content including creation of coursework, Learning Games & Simulations, Augmented Reality and Virtual Reality will be developed, with a clear public system for rating by users on effectiveness and quality. For fun based learning student-appropriate tools like apps, gamification of Indian art and culture, in multiple languages, with clear operating instructions, will also be created. A reliable backup mechanism for disseminating e-content to students will be provided.

Training and incentives for teachers

Teachers will undergo rigorous training in learner centric pedagogy and on how to become high-quality online content creator themselves using online teaching platforms and tools. There will be emphasis on the teacher's role in facilitating active student engagement with the content and with each other.

Online assessment and examinations

Appropriate bodies, such as the proposed National Assessment Center or PARAKH, school boards, NTA and other identified bodies will design and implement assessment frameworks encompassing competencies, portfolio, rubrics, standardized assessment s and assessments analytics. Studies will be undertaken to pilot new ways of assessment using education technologies focusing on 21st century.

Blended models of learning

The importance of face-to-face in person learning is fully recognized even while promoting digital learning and education. Accordingly, different effective models of blended learning will be identified for appropriate replication for different subjects.

Digital infrastructure and Educational Digital Content and Capacity

A dedicated unit for the purpose of orchestrating the building of digital infrastructure, digital content and capacity building will be created in the Ministry to look after the e-education needs of both school and higher education. Since technology is rapidly evolving and need specialists to deliver high quality e-learning, a vibrant ecosystem has to be encouraged to create solutions that not only solve India's challenges of scale, diversity, equity but also evolve in keeping with the rapid changes in technology.

Conclusion

Analyzing different aspects of NEP 2020 for e-learning use and integration whether this may be digital infrastructure, e-content creation, techno-competencies of teachers, online assessments, addressing the digital divide, blended learning or virtual labs the policy has numerous effective strategies for integrating and strengthening e-learning for making India progressive in techno competencies for meeting needs and challenges of present century. The New Education Policy 2020 rests on five pillars-Access, Equity, Quality, Affordability and Accountability. Given the explosive pace of technological development allied with the sheer creativity of tech savvy teachers and entrepreneurs, it is certain that technology will impact education in multiple ways.NEP 2020 has proved a dynamic side by use and integration of technology to improve multiple aspects of education.

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