

# E-learning in Higher Education in India: Experiences and Challenges—An Exploratory Study



Kiri Taso and Arindam Chakrabarty

**Abstract** The world community is committed to achieve 17 goals popularly known as United Nation Sustainable Development Goals (UNSDGs) of which education has been given major thrust that has been earmarked in Goal 4. As a member country, India has also attempted to address the issues of education with highest priority that is envisaged by the responses of the government for drafting New Education Policy in 2019. The government is committed to achieve inclusive education that needs the manifestation of e-Learning platform. Since it is difficult to bring the elephantine population under the ambit of conventional education system, this paper has attempted to explore the experiences and challenges of e-Learning mechanism in the higher education system of India.

**Keywords** E-Learning · UNSDGs · New Education Policy · Inclusive education · Conventional education

## 1 Introduction

E-Learning can be defined as an online educational learning process. It can simply be understood as ‘Internet-Based Learning’. It is an online learning service through which teaching–learning process is carried out. In other words, e-Learning refers to ‘the mode of teaching and learning via Internet and website’. E-Learning is adopted by an institution to let the students learn from home and far distance through online mode which would make the teaching–learning process more approachable and convenient to some extent. E-Learning is primarily the network-enabled practices of skills and information transfer between the online learners and resource providers.

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E-Learning refers to the using of electronic application and processes to learn. ‘E-Learning can be in other words understood by means of learning through electronic way by adopting modern means of technological learning. E-Learning can be understood as the network-enabled transfer of skills and knowledge to individual as well as masses. It is opposite to offline and non-electronic means of teaching and learning practices ([www.economictimes.indiatimes.com/definition/e-learning](http://www.economictimes.indiatimes.com/definition/e-learning)). Henceforth, the use of computer–desktop and laptop, mobile and tab and other means to deliver teaching–learning process through the use of Internet source can be simply known as e-Learning. To some extent, we can say online learning (e-Learning) is gradually doing away the traditional learning methods.

Concept of ICT:

Information and Communication Technology (ICT) in the field of education is a significant concept to understand. The various curricular developmental projects have been carried out under the assistance of IITs and NITs. The National Mission on Education initiative by the Government of India is expected to boost the Gross Enrolment Ratio (GER) in Higher Education by 5 percentage (%) points during the Eleven Five Year Plan (2007–12). This Mission has two major components which are (i) Content Generation and (ii) Connectivity—along with a provision to provide devices to institution and learner. Besides that the Mission also seeks to provide computer infrastructure and connectivity to over 18,000 colleges and nearly 400 Departments at Universities and Deemed Universities and Institutions in India for a greater national cause. It also provides interactivity and problem-solving approach which will be addressed through the program called ‘Talk to a Teacher’ Segment.

## 2 Electronic Learning or Usage of e-Resources Learning

**Massive Open Online Course (MOOC):**

MOOC is an online course which committed to provide ‘Massive’ and ‘Open’ online learning platform via the web. The MOOCs system of learning begins in the year 2001 at the USA. And it became a trendy approach of learning since 2012 onwards (The New York Times, 18 April 2014).

And the below table shows the students admitted in Coursera enrollees:

Sl. No.	Country/region	Percentage (%) Approx
1.	Russia	2.3
2.	Australia	2.4
3.	Canada	3.5
4.	UK	4.5

(continued)

(continued)

Sl. No.	Country/region	Percentage (%) Approx
5.	Spain	4
6.	India	8.7
7.	Brazil	5.2
8.	USA	27.6
9.	Contribution of the different part of the world	42

Source Coursera Enrolees

## SWAYAM

The main goal of the SWAYAM is to deliver quality and reachable educational learning prospect to every needed person specially the underprivileged and unreachable section of society. The SWAYAM actually strives to acts as link for those students who are digitally divided and untouched by e-Learning or Digital Revolution process. The indigenously developed IT platform enables the SWAYAM to propagate all the courses that are being thought by the best teacher in the country and are being made universal access to anyone and at anytime at free of cost.

The programmes and features that offered in SWAYAM are giving education from class 9th to postgraduate n which they offer courses like Science, Engineering, Management, Humanities, Mathematics, Arts and Recreation, Commerce, Language, Education and Library courses, etc., given below:

How to access SWAYAM?

SWAYAM can be accessed through two major ways as follows:

Sl.No.	SWAYAM can be accessed through
1	One can access the SWAYAM portal on the web through <a href="https://swayam.gov.in">https://swayam.gov.in</a>
2	One can also access the SWAYAM mobile apps for— <b>Android and iOS version</b>

Source SWAYAM, GOI and Swayam learning portal

## Review of Literature

Cox [4], (pp. 85–105) explains the necessity of e-Learning which enhanced our understanding on learning and Information Technology (IT) in teaching and learning process in order to have a clarity and consistency of subject and further highlights that although the young generation has wider access to Information Technology (IT) little is known about this impact on their learning process. There is also a need to balance between the formal and informal uses of e-Learning.

Dewan's [5] study reveals that 80% have computer, 80–67% and 20–33% have no computer. Thus, a better infrastructure is required in institution to provide e-Learning curriculum to the e-Learner.

Rana and Lal [7] highlight that there is need of conventional and holistic approach in educational system which will meet the demands of e-Learners at schools, colleges and universities level. The e-Learning institution with the help of World Wide Web (WWW) via Internet tried its best possibilities to promote distance education, virtual and e-Learning approach by delivering and sharing resources, promoting active e-Learning technologies.

Rosenberg [8] says that e-Learning enables us to understand and deals with different web-based contents for teaching–learning process.

Longmire [6] emphasised that ‘an e-Learning approach includes a wide range of digital and computer-based learning mechanism’. He further states that e-Learning content is mainly conveyed via Internet, satellite communication, audiotape and videotape, DVD, CD-ROM and TV and still emerging so-called wireless application protocols (WAP).

Agarwal and Nisa [1] focus on the knowledge process outsourcing sector of India. Authors highlight the scenario which had witnessed the rapid change from ‘industrial to knowledge-based economy’. Both also highlight the Skyrme [9] and Stiglitz [10] views on ‘how the highly skilled labour force is the key to achieved success in the knowledge-based economy and industry’.

According to Tripathi and Jeevan [11], the paradigm shift in teaching–learning process (traditional to e-Learning) is perhaps due to rapid evolvement made in the field of Information and Communication Technology (ICT).

Ali [2] states that the exponential advent in the field of ICT and Internet has greatly influenced and revolutionised the way the knowledge is broadcasted.

### **3 Objective of the Study**

The paper contains the following objectives:

1. To explore various e-Learning portals operating in India.
2. To explain challenges in implementing e-Learning mechanism for effective teaching dissemination process.

### **4 Analysis I**

Due to the emergence of many well-financed institutions which later link with some of the top universities like Udacity, Coursea and edx, etc., at this period, the year 2012 was regarded as the ‘The year of MOOCs’ as per The New York Times (2 November 2012).

## 5 Popular e-Learning Firms/Platforms in India: Indicative List

The emergence of cloud computing technology has highly impacted the Online Education Market in India. The cloud technology with its potential capabilities provides a significant amount of data, information and content at single platforms to e-Learning Companies in India. Due to data saving scope, it is easier for the users and providers to procure, manage access and process the information from anywhere and anytime. Another important reason behind the growth of e-Learning markets trends in India is the rising popularity of big data and learning analytics. The technology enables the companies and institutions to provide online courses to the learners. The e-Learning markets due to its significance potentiality and effective results attract many learners to be aware and opt e-Learning courses. This rising awareness on online learning scope has pushed the growth of online education markets in India. The involvement of Information Communications Technology (ICT) in the field of teaching–learning process has led to the increasing demands of alternative educational approach of learning, which provides significant opportunities for growth of the e-Learning companies in India via digital platform. Thus, it is forecasted that Indian e-Learning markets potentiality will be expanded up to US\$18 billion by 2022.

### E-Learning Institution in India in 2019:

The emergence of cloud computing technology has highly impacted the Online Education Market in India. Due to data saving scope, it is more easier for the users and providers to procure, manage, access and process the information from anywhere and anytime. Another important reason behind the growth of e-Learning markets trends in India is the rising popularity of big data and learning analytics. The technology enables the companies and institutions to provide online courses to the learners. However, it is forecasted that Indian e-Learning markets potentiality will be expanded up to US\$18 billion by 2022 ([www.technavio.com](http://www.technavio.com)).

1. **BYJU'S:** BYJU'S is a learning app founded by Byju Raveendran. In 2019, it has a total net worth of \$5.4 billion (Rs. 37,000 crore). This firm has efficiently created a K12 learning smartphone app which offers highly effective, adaptive and active engaging learning programmes. This Edetech app not only provides effective tutoring programme at school level but also efficiently delivers a e-Tutoring to various other competitive exams like IIT-JE, UPSC, CAT and GRE, etc.
2. **IGNOU:** IGNOU stands for *Indira Gandhi National Open University* a Central University which is located at Maiden Garhi, New Delhi. It was established in the year 1985. It has a total enrolment of over 4 million students with 67 centres across the country, the reason why it is regarded as world's largest university. The university serves under the motto of—*The People's University*. IGNOU was founded to serve universal and accessible quality higher educational opportunities in India through the means of *Distance and Open Education*. IGNOU offers 226 academic programs like Diploma, Degree and Certificate courses such as

School of Social Science, Sciences, Education, Engineering and Technology, Management Studies, Computer and Information Sciences, Health Sciences, Law, Journalism and New Media Studies, Vocational Education and Training, Foreign Languages and Performing and Visual Arts, etc.

3. **Dexler Education** (2001): It is located in Bangalore (India). The Dexler Education primarily deals with digital education and consultative services in educational sector. The company provides industry-based e-Learning education solution for corporate learning, talent and faculty management and enhances easier mode on e-Learning. Along with its inventive and skilled e-Learning tactics in delivering quality education to the needy students and organisation, the Dexler Education acquired certain position among the highest e-Learning institution in country.
4. **The Educomp Solution (1994)**: It is in Gurgaon and an Indian-based company. Its aims to replace the traditional way of learning with more advance and smarter way of teaching and learning. Educomp Solutions is ranked among the best e-Learning companies in India. As there is saying—*the numbers speaks*, there are 30 million learners across and 65,000 schools in Educomp Solutions in two decades.
5. National Institute of Information Technology (NIIT-1981): It is situated in Gurugram (India). NIIT provides various kinds of e-Learning courses such as managing, self-learning and instruction training, etc. NIIT is specialised in providing knowledge to certain domains such as corporate, skills and career and schools learning groups. NIIT also offers necessary e-Learning facilities to the deserving and socially challenged and deprived students to certain extent.
6. **Edukart** (2017): It is also listed among the top online educational learning companies in India. Edukart is one of Indian higher education enrolment platform for e-Learner. It is an e-Learning entrance coaching site that provides online learning services to the educational seekers. Edukart also offers admission to certain curriculum such as Diploma and Degree Courses along with Entrance and Certificate, etc. Edukart has linked with some well-recognised educational institution in India like Indian School of Business, National Narsee Monjee Institute of Management Studies-School, etc.
7. **Simplilearn**: It is also one of the top e-Learning platform in San Francisco, California (USA) and Bangalore (India). The Simplilearn also delivered various e-Learning programmes such as cloud computing, digital markets and cyber security course, etc., to the online learner. This institution today achieved successful position among the successful online educational institution in India.
8. **Zeus Learning (ZL)**: It is also an online learning institution whose headquarters is at Mumbai (India). It occupies top ninth position among the top online learning institution in India. Zeus Learning offers various programmes to the online learner such as software and apps designing, training and solution for mobile and other technological system, etc.
9. **Meritnation**: It provides live online interactive and tutorial classes to the e-Learning seekers. It is an Edu tech start-up, which is a part or division of Applect Learning Systems based in Delhi (India). **Meritnation** is an online learning

providing institution that delivered various types of e-Learning approach to its e-Learner, so that there could be effective online teaching–learning practices.

10. **Excelsoft:** Excelsoft was founded in the year 2000. Excelsoft provides value courses, product and to cater to the needs and demands of all the key educational sectors like K12 learning system, higher education level, corporate learning, etc.

## 6 Analysis: II

The e-Learning system is vital for rapid teaching, learning and dissemination process but there are inherent challenges as well. A few key indicative challenges are mentioned below.

- (a) Lack of uninterrupted power supply is one of the major issues in the online learning process. Since e-Learning system wholly depends on electricity, there has been frequent interruption in power supply that creates disruption in e-Learning process.
- (b) Lack of Internet coverage across the country is another key issue to be addressed in order to provide better and quality digital learning capability of the learner of the country.
- (c) Technical issues are yet another matter of concern since the entire process of e-Learning revolves around technology, and if there is technical issue that exists in the learning process, it will definitely hamper the e-Learning process.
- (d) Lack of professional skills is another issue need to be redressed, as it requires a well-qualified and skilful professional person in the online education system. If the knowledge providers lack the professional skills, then it will again create problems in such teaching–learning process.
- (e) Smooth e-Learning process is hindered by the inherent struggle for adaptability of computer skills. In this type of learning pattern, both the teacher and students need to have well versed in the field of computer technology.
- (f) Lack of motivation, i.e. self-motivation is another important matter. Since it lacks face-to-face interactive methods, sometimes students remain unmotivated in their learning process.
- (g) Reliability of e-Materials is another important concern, as we do not know the reliable source of materials that are being provided to the students.
- (h) Most of the e-Platform is unidirectional. In other words, the learning process in the e-Learning process is one-way learning platform to most often. The learner most often did not get time to have face-to-face contact with the resource person [3].
- (i) The e-Learning system also suffers from lack of personal or humanistic touch or human factor in the fields of teaching–learning pedagogy. E-Platforms suffer from real-time interactions, since classes are online in nature with time-specific guidance which makes difficult for the learner to attend the exact schedule classes which is another matter of concern for e-Learner.

- (j) Lack of adequate e-Materials is another important issue where the learner may face certain problems. The e-Materials are developed as generic not specific to field of inquiry which lacks the flexibility learning capability or interdisciplinary knowledge of the learner.
- (k) Huge initial investment for production, preparation and access of materials at the beginning.

## 7 Limitation of Study

The paper is developed to explore e-Learning practices in the higher education system of India. Since the e-Learning pattern is in the nascent and formative stage in the country, it is difficult to retrieve longitudinal database in terms of number of users, period of usage, qualitative aspect of e-Learning process, etc. So, this paper essentially suffers from adequate relevant information at this moment. However, the paper has attempted to outline the overview of e-Learning process in Indian higher education system.

## 8 Conclusion

This study can be regarded as a very foundation work in the domain of e-Learning intervention in Indian higher education system. The study indicates that the e-Learning process has gained momentum over a period of time, and it signifies that both the public and private sectors are contributing to this segment that can achieve the inclusive education model up to the extent of higher education level in India.

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