

## **Ensuring inclusive quality education through On-line Distance Learning : Prospects and Challenges**

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### **Key word:**

**ICT based knowledge delivery system, on-line-learning-environment, Learning Management Platform, accessibility gaps, inclusiveness**

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### **Abstract**

It is now an established fact that the information communication technology (ICT) based emerging technologies has the potential to bring in a paradigm shift in educational procedure and outcome. It is indeed the must-use technology [1] for modern distance learning termed as Open Distance Learning (ODL). Distance education was provided initially using the postal system through delivery of printed study materials. It went through a major change after the invention of radio in the 1920s and the arrival of television in the 1940s. Distance education is increasingly using combinations of different technologies to improve communication between educators and learners. After the arrival of computer distance education took a big leap. Today, technological innovations and advancement using computers/tablet/mobile and fast speed internet connectivity through satellite has completely changed the way distance education was imparted earlier. Emerging interactive technologies can be applied in on-line-learning-environment to open up new horizons in distance learning mode. It can be channelized to reach the unreached by reducing the accessibility gaps encompassing the drop outs, persons with disabilities (PwD), and gender bias including third gender providing inclusiveness in education and skill development. Video offers a unique method for conveying ideas in teaching and learning procedure - especially for craft, computing, music, management, performing arts, as well as science and technology. Varieties of tools are now available to deliver lessons in video mode, to interact with the learners and give them feed-

back on areas which need special attention. The technology supported system helps in enhancing the learning, retention, self-evaluation and finding appropriate career opportunities to the learner. It makes all-the-time learning possible at an affordable cost. However, for the institution it is a huge challenge to provide proper Learning Management Platform along with availability of trained educators.

**Definition:**

Open and Distance Learning (ODL) is a general term for the use of telecommunication to provide or enhance learning. Around the world, the academic community is exploring the Internet, teleconferencing, and related means to achieve an extended classroom for enhancing learning experience. The United States Distance Learning Association defines **distance learning** as "The acquisition of knowledge and skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance" [2].

**New Education Policy (NEP 2016):**

The National Education Policy (NEP) 2016 envisions a credible and high-performing education system capable of ensuring inclusive quality education and lifelong learning opportunities for all and producing students/graduates equipped with the knowledge, skills, attitudes and values that are required to lead a productive life, participate in the country's development process, respond to the requirements of the fast- changing, ever- globalising, knowledge- based economy and society [3]. It has recognized Open and Distance Learning (ODL) as an important mode for achieving the target.

**Inclusiveness:**

Open and distance learning has also opened the doors to education to disadvantaged population such as unemployed, disabled people the ethnic minorities, women and third gender. In addition, although it may come as a paradox, educational institutions and organizations worldwide have become more united and dedicated to collaborate and make partnerships with the main goal to enhance and provide equal opportunity to education to a larger number of students.

### **Characteristics:**

The openness may be characterized through six criteria [4] - Open Access(ibility), Freedom of Time, Freedom of Pace, Freedom of Place, Open Programming, and Open to Everybody.

### **Prospects:**

India is having the largest number of youth and adult illiterates in the world with the youth literacy rate [3]. ODL can be adapted as a major tool to address the issue urgently. The web based ODL offers a unique method for conveying ideas in teaching and learning procedure - especially for craft, computing, music, management, performing arts, as well as science and technology and medicine. It has already contributed significantly to the development of education in India, with over 4 million students enrolled under ODL.

**Massive Open Online Courses (MOOCs)** provide free access to cutting edge courses at relatively much lower cost. Various higher education institutes/universities are putting their courses online by setting up open learning platforms. The demand for MOOCs is likely to rise in future with growing aspirations and need for continuous upgrading of knowledge. Ministry of Human Resource Development (MHRD), Govt. of India has planned to launch Study Webs of Active-Learning for Young Aspiring Minds (**SWAYAM**), a web portal where MOOCs on various subjects will be available.

### **Internationalisation of Education:**

Internationalisation comprises of mobility of students, scholars and faculty; export/import of academic systems and cultures; research cooperation; knowledge transfer and capacity building; standardization of curriculum and learning outcomes; cross-border delivery of programmes; and includes virtual mobility and digital learning. Web based technology offers the appropriate platform to achieve all these at an affordable cost.

The National Programme on Technology Enhanced Learning (NPTEL) [5,6], a project funded by the MHRD provides courses/ study materials on subject related to Engineering, Basic sciences, Technology, Management and Humanities through online Web and Video.

## **Challenges:**

The challenges are numerous. The four important ones we enumerate as - to establish the technological infrastructure, training of educators, development of contents in vernacular languages and certification of the courses, which are discussed below.

### **I. Skilled Educators:**

The lack of trained educators remain a major challenge and to be addressed urgently. It is very important that the instructors are properly educated in their professional development - have the training in using technologies effectively in their teaching- learning process e.g. how to use technology to enhance course design, lesson planning, content development, presentations, in-class activities, assessments, student achievement and placement along with adopting existing online content and sharing lessons with other peer group. With technology-supported-knowledge-delivery-system the prospect in ODL is enormous, but equally challenging is to prepare a pool of trained educators in all areas of knowledge.

### **II. Technology Support:**

Open distance learning system requires ICT infrastructure to provide various services effectively at different phases of course duration. Adequate financial and technical manpower supports are the prerequisite to establish and manage the following areas [7]-

#### **i. The network infrastructure**

The standard network components are the router, the network switches, the standard network cable (fiber and UTP). Wireless connectivity (Wifi/Wi-max) shall also be used, where ever needed. Dedicated network connectivity among various operational nodes in form of intranet can be used to overcome shortage of manpower by using MPLS/VPN technology.

#### **ii. The computing infrastructure**

The standard computing infrastructure include standard computer hardware such as servers - database servers, web servers, backup/recovery servers and application servers to host various student learning and support services and personal computers - desktop computers/ laptops/ netbooks to access and use services.

### **iii. The stable system and application software**

Web technologies broadly categorized as LAMP (Linux, Apache, MySQL and PHP) and WAMP (Windows, Apache, MySQL and PHP). There are several learning management systems (LMS) available and MOODLE is one of popular LMSs. LMS is a complete system that covers all phases of a student learning life cycle.

### **iv. The internet service provider (ISP) and internet bandwidth**

The accessibility of a service depends on the availability of internet bandwidth reserved in a particular institution, where service is hosted. The internet service provider manages the internet bandwidth.

### **v. The security infrastructure**

The standard security devices are the firewall, intrusion detection system (IDS), intrusion prevention system (IPS), the antivirus software and other monitoring systems. Security for a service shall be ensured by protecting its network domain where service is running, its system domain on which the service is hosted and the service/application itself.

### **vi. The policy document**

Policy document covers various policies that are to be enforced in an institution where support services are made available in an open distance education system. The policies shall broadly categorized to operational policies, behavioral policies, resource access (system, service and network) control policies, security policies and organizational policies. The policy document is dynamically changed based on need and deed. The policy document helps to setup the ICT infrastructure properly and to have access control.

## **III. ODL in Vernacular language :**

The medium of instruction in **ODL** is mostly English language based. There have been many distinguished educationist who strongly opinioned in favour of Vernacular Language/ mother tongue as the best vehicle for transmission of knowledge. It is a huge challenge to broaden the language base in ODL.

#### **IV. Authentication & Certification:**

It is important to check whether the programme is approved/ enlisted or certified by appropriate national /international agencies like UGC/ICDE etc. Many universities/ institutions float distance education, which are fake. Applying for a distance learning course one must be convinced that the course/ programme is duly recognized.

The International Council for Open and Distance Education (ICDE) is the leading global membership organization for open, distance, flexible and online education, including e-learning, and draws its membership from institutions, educational authorities, commercial actors, and individuals. Partly funded by the Government of Norway, it is a key partner for UNESCO. In India Distance Education Council (DEC) was established for the coordination of the Open University and accreditation for the distance education courses. The Council was constituted under the Indira Gandhi National Open University (IGNOU) Act 1985, which was later dissolved. The regulatory powers on ODL are currently vested with the University Grants Commission (UGC) which grants approval to the institutes to offer courses that must follow certain standards and guidelines.

The other aspect is that no matter how good the university/college from where one pursued his/her distance learning programme, some employers have a bias and do not recognize the degree obtained through distance learning/ODL. Five years back IBPO bank exam allowed only regular candidates to appear in competitive examination. Thus the students are confused over the value of a distance learning programme. It is imperative to inculcate confidence among learners. There is a need to create a body to promote, coordinate, regulate and maintain standards of MOOCs and to develop a mechanism for recognition, transfer and accumulation of credits on national and global level.

#### **The key Players:**

A large number of public and private institutions /universities/organizations are offering web-based teaching - the backbone of the ODL system. At present, open and distance learning in higher education in India is provided mainly by IGNOU and State Open Universities and by National Institute of Open Schooling (NIOS) in the field of school education. Some private players including Symbiosis Centre for Distance Learning, Pune and Sikkim Manipal University, Gangtok are also doing good work. Stanford University, Boston University,

University of Florida, Arizona State University, University of Wisconsin-Madison, edX.org, Udacity [8] and Coursera [9], Khan Academy etc. are offering excellent courses in a wide range of disciplines and many of these are being offered under MOOCs. MOOCs provide free access to courses on cutting edge subjects either free of cost or at relatively much lower cost. A number of Indian Musicians are now teaching Classical Hindustani vocal, Carnatic Vocal, Instrumental, Hindi Songs, Rabindra Sangeet, Devotional Songs etc. through web based system, for example Shankar Madhavan's on line Music Course [10]. Courses on Yoga, Dance, and Cooking are also available.

### **Conclusion:**

We presented and analyzed the challenges faced by ODL with a view to help both learners and institutions offering ODL. Providing 'all-the-time learning' at an affordable cost it can promote excellence in education, ensuring inclusive quality education and skill development and has the maximum scope to reach the unreached. It is in a nascent stage in India needs proper nurturing.

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