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Role of ICT in ODL system

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Abstract: Now a days open and distance learning (ODL) programs are gaining popularity as an alternative mode of higher education and a strategy for the development of knowledge society. The implementation of ICT has initiated a new revolution in open and distance education environment that drastically changed its traditional method of teaching and learning. The present paper attempts to study the importance of usage of ICTs in open and distance education; various initiatives of ICTs undertaken by the Government in India. It is found that the implementation of ICT in ODL programs is at very slow phase due to lack of infrastructures, cost, technical, financial awareness and policy framework. All these required special attention of the educators, policy-makers and relevant governments for effective utilization and integration of technologies for educational purposes.

Key Words: ICT, Open distance learning, MOOCS,

INTRODUCTION:

Open and Distance Learning (ODL) system is a system wherein teachers and learners need not necessarily be physically present at the place where teaching and learning process is going on. ODL system of the country consists of Indira Gandhi National Open University (IGNOU), State Open Universities (SOUs), Institutions and Universities offering education in dual mode ie, both in conventional and ODL mode. ODL method of learning is becoming more popular since the students who have discontinued conventional method of learning due to socio-economic problems can fulfil their goal by continuing their education in ODL universities. ODL method of learning is a boon for the in-service personnels to get promotions in their respective departments without devoting their work time for education. With the dissolution of the Distance Education Council of the IGNOU, the regulatory power on ODL is currently with the University Grants Commission (UGC).

The objective of this study is to know about the ongoing ICT programs at various levels of distance education in India.

ICT initiatives in distance education:

Over the last forty years, India has actively promoted the use of information and communication technologies (ICTs) in education (both formal and non-formal) and it has become an important part of policy framework on education. Since the early 1950s, Indian policy-makers have identified the need to use multi- media for promoting development in education. The subsequent policy and plan documents on education, prepared from time to time, have given importance to the role of technology tools, especially in the distance education sector. Today, both the Central and State level decision-makers, have chosen to explore the use of computer and Internet based ICTs for distance education. A large number of Initiatives using ICT have been taken for different levels of education in India, at state and national levels. The present section list outs the major initiatives taken to promote ICT implementation in distance education from the popular media radio, T.V, satellite to present day computers and internet.

School Radio Broadcasts Project - The foremost ICT sources to be used in India was the *radio*, through which school educational programs were started simultaneously in Delhi, Bombay, Calcutta and Madras far back in 1937. However, due to regional disparity in school curriculum, this project had not been successful for long. After independence, the *radio* proved to be a major educational medium for School Educational Broadcasts, Adult Education Projects**,** Farm & Home Broadcasts, University Broadcasts and Language learning Projects etc

Satellite Instructional TV Experiment (SITE) - This experiment was made in the year 1975 and concentrated on the broadcast of two types of programs namely development related programs related to health, agriculture etc. and educational programs in Hindi, Kannada, Telugu and Oriya.

Indian National Satellite Project (INSAT) -The INSAT, INSAT-1A and INSAT-1B were other important landmarks in the promotion and development of ICT aids in educational sector. Educational television broadcasts were inaugurated through the INSAT series of satellites with an objective of bringing the rural population into the national mainstream.

Country-wide Classroom Program- It was initiated by the apex body of higher education namely University Grants Commission. Nearly 10,000+ programs have been produced and

telecast on National Television with an aim to upgrade the quality of education in the country. The production of programs under this scheme is undertaken by the Electronic Media Research Centers (EMRC) located at various spots in the country.

Gyan Vani–This is an educational FM *radio* project which was launched by IGNOU, NCERT, UGC, IITs, open universities, and by various Ministries. Through FM channels it reaches in 40 cities around the country for the purpose of educational development. Electronic Media Research Center (EMRC)is its nodal agency for proper implementation of the project and efforts are underway to create a global Gyan-vani project

Gyan Darshan– As a collaborative effort of MHRD and IGNOU, Gyan Darshan has come to stay as a major innovation in educational *television*. The Electronic Media Research Center (EMRC) is the coordinating and transmitting agency for the programs. Regular transmissions of programs are made with a view to reach the remotest areas of the country.

E-learning material for teachers and students

In order to provide supplementary learning material for students and for upgrading the skills of teachers, MHRD has developed a dedicated Digital Infrastructure for Knowledge Sharing (DIKSHA) platform. The high quality e-learning material both for students and teachers are uploaded by ministry and states/UTs on this portal. This is expected to substantially augment the knowledge base of the students and technical skills of teachers at no additional cost.

Innovations in classroom study

The Government has launched Rashtriya Aavishkar Abhiyan (RAA) programme on 09.07.2015, to motivate and engage children of the age group of 6-18 years in science, mathematics and technology through observation, experimentation, inference drawing, model building, etc. both through inside and outside classroom activities.

The Central Government also supports states and UTs on early grade reading, writing and comprehension, and early mathematics programmes through a sub-programme namely 'Padhe Bharat Badhe Bharat' (PBBB) in foundational years of schooling.

Interactive content for students

A single point repository of e-resources called e- PATHSHALA containing NCERT textbooks and various other learning resources has been developed for showcasing and disseminating all

educational resources including textbooks, audio, video, periodicals, and a variety of other print and non-print materials.

Massive Open Online Courses (MOOCs)

MHRD has launched a Massive Open Online Courses (MOOCs) platform popularly known as SWAYAM (Study Webs of Active learning for Young Aspiring Minds) on July 9, 2017. The portal is offering various online courses for school education and higher education. NCERT is developing course modules for Massive Open and Online Course (MOOCs) for school education system in 12 subject areas (accountancy, business studies, biology, chemistry, economic, history, geography, mathematics, physics, political science, psychology and sociology) for classes 9-12. Twelve and twenty one courses have been completed in the first cycle and second cycle until November 30, 2018 on SWAYAM platform (https://swayam.gov.in/) respectively. Nearly 22,000 students and 30,000 students were registered in the first cycle and second cycle respectively.

Eklavya-It is a computer-aided self-learning project which uses internet and television to promote distance education in India. It provides multimedia software based on textbooks, which has been loaded on touch screen computers.

Education Satellite (EDUSAT)-The first Indian satellite designed and developed exclusively for serving the educational sector was launched by the Indian Space Research Organization (ISRO). This system was primarily for school and college education, but beside the formal sector, it was also supposed to enhance the system of distance education in the country. Many projects have been initiated to impart education through this interactive satellite system.

Network Resource Centers -The University Grants Commission also started several schemes, like the setting up of Network Resource Centers in higher education institutions to encourage and promote the usage of ICTs in curriculum development, to enhance teaching learning activities and to prepare the next generation for better adaptation in knowledge society.

Computer Skill Development Projects - The Government of West Bengal has initiated a number of computer skill development projects for the school and college levels students, as part of their vocational education curriculum, along with a broad-based computer awareness and

training program for disadvantaged groups (SC,ST, OBCs, minorities) as part of their social welfare objectives.

TATA-literacy.com - The Government of Andhra Pradesh is actively engaged in a partnership with Tata Group & Tata Consultancy Services on Tata-literacy.com, a portal designed to provide literacy in some of the poorest districts of the state of Andhra Pradesh.

Project Vidya-As a collaborative effort of Ministry of Human Resource Development, Government of India and Intel Corporation, it seeks to improve the quality of educational input and to provide both ICT access and training to students and teachers in selected government schools of the country.

TARAHaat-It is a developmental project, initiated by NGOs with an aim to increase literacy through ICTs tools and to provide quality education at affordable prices. The learner's age under this program ranges from 8 to 35 years which includes school and college students, unemployed youth, professionals, and women.

National Knowledge Network (NKN) - The National Mission on Education launched with an aim to leverage ICTs for enhancing the teaching learning processes and for connecting the country's major research and educational institutes, colleges, and universities. The Mission has two main components namely the content generation and providing connectivity for students and institutions. The existing sources like the National Program of Technology Enhanced Learning (NPTEL) and the Multimedia Educational Resource for Learning & Online Teaching (MERLOT) contribute in this mission.

Sakshat Portal - It is a single window portal launched by the MHRD for all education-related needs of students, teachers, and lifelong learners. It provides a range of services like educational informational as well as interactive services like a discussion forum, one-on-one sessions with teachers, career counseling, and video conferencing facility.

The content is developed by representatives from institutions like IGNOU, Delhi University, National Institute of Open Schooling, and NCERT, as well as prominent academicians in the field.

Free and Open Source Software in Education (FOSS) - This software which is available free of cost, provide a database which help the educational institutions in tapping the full material or information's available in the open source domain. In this direction, FOSS.IN -is one of the

largest Free and Open Source Software (FOSS) events of India in the world, which focuses on FOSS development and contribution. Further, the Ministry of Communications and Information Technology, Government of India also set up the National Resource Centre for Free and Open Source Software (NRCFOSS) with an aim to bridge the gap of digital divide in the country.

Education & Research Network (ERNET) - It was set up with the help of UNDP as the leading education and research network in India interconnecting major higher education institutes of India. At present it is largest terrestrial and satellite network in the country with the objective of not only to provide connectivity, but to meet the entire educational and research needs of the institutions.

Information and Library Network (INFLIBNET) and Developing Library Network (DELNET) - Both are computer-aided networks for linking libraries and information centers in universities, deemed to be universities, colleges, UGC information centers, institutions of national importance, R&D institutions etc. in order to promote resource sharing among libraries in India.

Multimedia Educational Resource for Learning and Online Teaching (MERLOT) - It is a free and open resource intended mainly for teaching staff and students of higher education. It provides online teaching and learning materials and allows sharing assistance and information with educational experts.

Virtual Laboratories - Virtual Labs have been designed to provide remote access to labs in various disciplines of Science and Engineering. Virtual labs started in collaboration with Centre for Development of Advanced Computing (C-DAC). It applies technologies (such as CDs and multimedia cards for mobiles) with a view to simulate a virtual classroom environment. Many other small-scale initiatives are also directed towards development of quality education in collaboration with Indian Institute of Technology and other research organizations in different states of the country.

Virtual Labs do not require any additional infrastructural setup for conducting experiments at user premises. One computer terminal with broadband Internet connectivity is all that is needed to perform the experiments remotely. Specifically, this project provides the following:

1. Access to quality simulation-based labs to those engineering colleges that lack these lab facilities.

2. Access to quality simulation-based labs as a complementary facility to those colleges that already have labs.
3. A complete Learning Management System around these labs.
4. Teacher-training and skill-set augmentation through workshops and on-site training.

OUTCOME OF ICT IN DISTANCE LEARNING

Through the Internet and worldwide web, new and enlarged sources of information and knowledge that offer teachers and students opportunities for self-development as well as benefits from incorporation into classroom environments. Through e-mail and other Internet related feedback mechanisms, greater opportunity to reduce the isolation and time delay associated with distance education. Through the extraordinary pace of software development, enriched teaching and learning with enhanced graphics, interaction, animation and visualisation. Through lowering telecommunications bandwidth costs and emergence of enhanced cable, wireless and satellite systems, greater opportunities for basic access, video conferencing, on-line interactive learning, and live interaction with the central place of a distance education programme. Through community access schemes, more potential to make the benefits of distance education eventually available to lower income people and rural communities.

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