

Information and communication technology initiatives in India

Deivam M

Ph.D Scholar, Dept. of Education, Gandhigram Rural Institute – Deemed University, Gandhigram, Tamilnadu, India.

Abstract

With the advent of 21st century, revolutionary changes in the communication system is occurring, every citizen of the country is now having a communication device. Therefore, if ICT is properly utilized then there will be equal opportunity for quality education to all the people of the country. Indian Government has taken a number of initiatives, and awarded a no. of e-content development projects under NME-ICT for the growth and development of e-learning environment. The targeted users are not fully availing the e-learning opportunity of such initiatives. NME-ICT creates high quality e-content for the target groups and on the others. In this article author highlighted National Mission on Education through ICT, National Program on Technology Enabled Learning, Gyankosh, Sakshat, Institute of Life Long Learning, GyanKosh, e-PGPathshala, and Shodhganga.

Keywords: ICT, India, SAKSHAT, NPTEL, NKN and INFLIBNET

Introduction

India is a huge country, with vast population diverse culture, poverty ridden population with little or no access to schools. Educational policy makers have always strived hard to provide technology based teaching with a wider mass base and richer instructional material. With the same view, Educational Technology was introduced in our country in the early seventies of the last century. Various agencies have made good use of television to impart teaching to those children who were deprived of quality education. Educational television programmes have covered not only children but also students of higher education, open universities and adult education very successfully.

New millennium brought new technology i.e. Information Technology or Information and Communication Technology (ICT) to be more precise. This is more effective than television, as it can provide two way interaction between the teacher and the taught. If the penetration of this technology goes deeper and deeper, then a day will definitely come, when there will be no disparity between the child belonging to a remote rural school and the child of a developed urban schools. Government of India along with active cooperation from the states is framing new policies, launching new schemes, missions, introducing new devices on concessional rates for the students. All these activities of the Government are revolved around ICT.

Therefore, it becomes imperative to discuss all those efforts the Government with ICT at the centre stage, aimed to provide latest gadgets, network environment, content presentation, instructional material, etc. to the children of the new millennium so that they can also walk with their heads high and be shoulder to shoulder with richer counterparts.

National Mission on Education through ICT

The National Mission on Education through ICT has been envisaged as a centrally sponsored scheme to leverage the potential of ICT. It provides high quality, personalized and interactive knowledge modules over the internet / intranet, for all the learners in higher education institutions of India in any time and in anywhere mode.

The purpose of NMEICT is twofold – content generation and

connectivity along with provision for access devices for institutions and learners. It seeks to bridge the digital divide, i.e the gap in the skills to use computing devices for the purpose of teaching and learning among urban and rural teachers in higher education domain and empower those, who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

It plans to focus on appropriate pedagogy for e-learning facility for performing experiments through virtual laboratories, on-line testing and certification, online availability of teacher's guide and mentor learners, utilisation of available Education Satellite (Edusat) and Direct to Home (DTH) platform, training and empowerment of teachers to effectively use the new methods of teaching.

SAKSHAT is an effort of NMEICT towards creating an open house for knowledge. The approach is to scrupulously avoid reinventing the wheel. It is an attempt to harness a large number of knowledge resources in a manner that adds value to them by making them more personalized and useful to the lifelong learner or student. The effort involves content packaging and integration to suit specific needs of the students at various levels or with different kinds of talent and mental prowess.

The portal boldly seeks to address many of the shortcomings in our education system by bringing together the best experts in the country in their respective fields and best available knowledge resources on the web in the public domain. It seeks to standardize the curriculum and learning materials across the country and keeps them in tune with the latest trends world over so that Indian learners do not lag behind.

Teacher independent modules work wonder in remote areas where the learner does not have access to good quality teachers or wants to study independently. This system also enable a lot of community learning and formation of groups of learners of a given caliber from diverse fields to enable fusion of best practices of one field of knowledge with those of the other. It also galvanises rural communities who may share their problem with each other and find solutions from the locally available knowledge and talent.

In case, solution to problems being faced by a community are

not forthcoming within a geographic locale, the horizon is expanded as the SAKSHAT enables to expand the boundaries to include even the entire world. Many educational services like scholarships, testing and certification, student/scholar/teacher/institution rating, guiding, demand and supply of talent through opportunity, surveys and forecasting etc. are delivered through SAKSHAT portal.

National Programme on Technology Enhanced Learning

The National Programme on Technology Enhanced Learning (NPTEL) is a Government of India sponsored collaborative educational programme. By developing curriculum-based video and web courses the programme aims to enhance the quality of engineering education in India. It is being jointly carried out by 7 IITs (IIT Bombay, IIT Delhi, IIT Guwahati, IIT Kanpur, IIT Kharagpur, IIT Madras and IIT Roorkee) and IISc Bangalore, and is funded by the Ministry of Human Resource Development of Government of India.

NPTEL has completed 12 years since inception and we have 850 web and video courses across 23 disciplines. The course videos are available in streaming mode, and may also be downloaded for viewing offline. The video files are also viewable via the IIT Channel in YouTube. Seven IITs and the Indian Institute of Science (IISc) have worked together to develop web and video based material for basic undergraduate science and engineering courses in order to enhance the reach and quality of technical education in India. The idea of having a technology enhanced learning initiative involving IITs and Indian Institutes of Management (IIMs) was first proposed by IISc Bangalore in the year 1999, immediately following a Workshop on Technology Enhanced Learning (WoTEL) conducted in Bangalore in Collaboration with Carnegie Mellon University (CMU), Pittsburgh, USA.

National Knowledge Network (NKN)

National Knowledge Network project is aimed at establishing a strong and robust internal Indian which will be capable of providing secure and reliable connectivity. Using, NKN, all vibrant institution with vision and passion will be able to transcend space and time limitations in accessing information and knowledge and derive the associated benefits for themselves and for the society. Establishing NKN is a significant step towards ushering in a knowledge revolution in the country with connectivity to 1500+institutions. NKN is intended to connect all the knowledge and research institution in the country using high bandwidth / low latency network.

Information and Library Network (INFLIBNET)

Centre is an autonomous Inter-University Centre of the University Grants Commission (UGC) of India. It is a major National Programme initiated by the UGC in 1991 with its Head Quarters at Gujarat University Campus, Ahmedabad. Initially started as a project under the IUCAA, it become an independent Inter-University Centre in 1996.

INFLIBNET is involved in modernizing University-libraries in India and connecting them as well as information centres in the country through a nation-wide, high-speed data network using the state-of-art technologies for the optimum utilisation of information. INFLIBNET is set out to be a major player in promoting scholarly communication among academician and researcher in India.

Projects

The Ministry of Human Resource Development has created a platform/portal named 'SAKSHAT' as part of the National Mission in Education through Information and Communication Technology. E-Content Projects sanctioned by NME-ICT, MHRD including some other e-Learning platform are as follows:

e-GyanKosh (<http://egyankosh.ac.in/>)

The meaning driven from e-GyanKosh is E=Electronic, Gyan=Knowledge and Kosh. e-GyanKosh is a national digital repository to store, index, preserve, distribute & share digital learning resources developed by the Open and Distance Learning Institutions in the country. It is implemented and maintained by Indira Gandhi National Open University (IGNOU). All course materials of IGNOU can now be accessed & downloaded free of cost. The collection comprises print & video based contents. Access of all materials are open to all through the one time registration process.

FlexiLearn (<http://www.ignouflexilearn.ac.in>)

IGNOU has introduced an open course portal called FlexiLearn which provides a self-learning environment with a list of academic advisors / course guides to act as mentors. FlexiLearn provides free and easy access to IGNOU's courses without any charges

Consortium for Educational Communication (CEC) (www.cec-ugc.org/)

Consortium for Educational Communication (CEC) was set-up as a nodal agency at the national level to address the educational needs of the country through the use of electronic media. CEC has about more than 15000 educational video programmes in 50 subjects developed by different Educational Multimedia Research Centers spread in Universities and Institutions of Higher Education across India. 22 Media Centers are working towards achieving this goal under the umbrella of CEC. NME-ICT, MHRD awarded the project named "Development of Courseware e-Content for Undergraduate". e-Learning Type Audio/Visual and Web Based material. CEC project basically concentrates on creation and dissemination of multimedia based learning resources.

Virtual Learning Environment, Institute of Lifelong Learning (ILL) (www.vle.du.ac.in)

The Virtual Learning Environment, Institute of Lifelong Learning (ILL) is a unique and innovative initiative of the University of Delhi to provide Open Educational Resources (OER) to the teaching and learning community. VLE provides the courses in Commerce, Humanities and Social Sciences, History, Sciences, Interviews and Podcast.

e-PGPathshala

The MHRD, under its National Mission on Education through ICT (NME-ICT), has assigned work to the UGC for development of e-content in 77 subjects at postgraduate level. The content and its quality is the key component of education system. High quality, curriculum-based, interactive content in different subjects across all disciplines of social sciences, arts, fine arts & humanities, natural & mathematical sciences,

linguistics and languages is being developed under this initiative named e-PGPathshala. E-content so developed would be available in open access through a Learning Management System (LMS) set-up at the INFLIBNET Centre as well as through SAKSHAT portal. Source: (<http://www.inflibnet.ac.in/epgp>)

Shodhganga

Shodhganga is the name coined to denote digital repository of Indian Electronic Theses and Dissertations set up by the INFLIBNET Centre. The word Shodh originates from Sanskrit and stands for research and discovery. The Ganga is the holiest, largest and longest of all rivers in Indian subcontinent. The Ganga is the symbol of Indian's age-long culture and civilization, ever changing, ever-flowing, ever-loved and revered by its people, and has held India's heart captive and drawn uncounted millions to her banks since the dawn of history. Shodhganga stands for the reservoir of Indian intellectual output stored in a repository hosted and maintained by the INFLIBNET Centre.

The Shodhganga@INFLIBNET is set up using an open source digital repository software called DSpace developed by MIT (Massachusetts Institute of Technology) in partnership between Hewlett-Packard (HP). The DSpace uses internationally recognized protocols and interoperability standards. Shodhganga provides a platform for research scholars to deposit their Ph.D these and make it available to the entire scholarly communication in open access. The repository has the ability to capture, index, store, disseminate and preserve ETDs (Electronic Theses and Dissertations) submitted by the researchers. Source: (<http://shodhganga.inflibnet.ac.in/>)

Conclusion

Government of India has been taking tremendous step to develop ICT. Indian country understands the digital generation needs to empower e-learning process among young aspiring minds. Indian Government started new projects day by day like Shodhganga, e-PGPathshala etc. but students utilization of this project is very less for their academics. The main objective of this project entitled on National Mission on Education through ICT; to spread quality education both rural and urban areas. Ministry of HRD started MOOCs Courses through SWAYAM Platform, it is open to study, whoever may be undertaking MOOCs courses and get e-Certificates. Hence, above valuable UGC INFLIFNET Projects very valuable to students, research scholars, all the academicians must make use of this project for their academic and research purpose.

References

1. Chand P, Arora J. Access to scholarly communication in higher education in India: trends in usage statistics via INFLIBNET. Program 2008; 42(4):382-390.
2. Chandwani A, Lihitkar S, Anilkumar S. e-Learning initiatives in India, 2010.
3. Imran R Shaikh. Introduction to Educational Technology and ICT. New Delhi: McGraw Hill Higher Education, 2012.
4. Inflibnet. 2016. Retrieved from <http://www.inflibnet.ac.in/>

5. Krishnan MS. NPTEL: a programme for free online and open engineering and science education. In Technology for Education, 2009. T4E'09. International Workshop, IEEE, 2009, 1-5.
6. Murthy TAV, Cholin VS, Vijayakumar JK. UGC-INFLIBNET initiatives in e-journal consortia and digital library of doctoral theses for Indian universities. In Paper accepted for National Conference on Digital Library and e-Theses (NCDLET 2005) held during, 2005, 7-8.
7. National Programme on Technology Enhanced Learning. 2016. Retrieved from <http://nptel.ac.in/>
8. Pallavi Kumar, Abhishek Thakur, Archana. E-learning: Initiatives in India. Gujarat: Inflibnet Centre, 2013.
9. Ravichandran M. E-Learning Initiatives in India. In Proc. International Conference on E-Commerce 2005, 286-290.
10. Shodhganga. 2016. Retrieved from <http://shodhganga.inflibnet.ac.in/>
11. Srivathsan KR. Concurrent instructional services over NPTEL content for quality education in the colleges, 2005. Download from http://www.edugrid.ac.in/web_folder/download/cis-nptel-92k5.pdf.
12. Subrahmanyam VV, Kanjilal U, Sharma VK, Dudeja AK. e-Portfolio: An e-Way of showcasing the artifacts. In Technology Enhanced Education (ICTEE), 2012 IEEE International Conference, IEEE, 2012, 1-4.