Impediments to Bringing Education to ALL

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ABSTRACT

Technological innovations have remarkably changed the concept of traditional classrooms and they have brought in significant changes in the quality of education at all levels. Expanded Internet Access, Open Educational Resources, Massive Open Online courses all are changing access to quality of education world wide. As a result technology has brought in a paradigm shift in education ie., from 'National Education to Global Education'; 'Online Education' to 'Life long Education' for all, 'Teacher Centric Education' to 'Learner Centric Education': ICT's are potentially so powerful tools to extend educational opportunities through online courses to both formal and nonformal, scattered and rural population, groups traditionally excluded from education due to cultural or social reasons such as ethnic minorities, girls and women, persons with disabilities and the elderly especially for reasons of cost or because of time constraints unable to enroll on campus. These changes have created challenges to the established educational practices at all levels of education in general college and universities in particular. The author of this paper world like to share her reflections on these challenges based on research findings, opinions sought in available literature across India. This paper discusses the various impediments that are experienced by the online learners and how these obstacles could be dealt with and avail the "Best possible learning opportunities" provided by the privileged Electronic Universities for the under privileged, needy and enthusiastic aspirants of India.

Introduction

Driven largely by technological innovation, higher education has embraced the unthinkable ie., globalization. Technology will significantly impact all aspects of higher education from research to communication and teaching learning process. It has changed not only the concept of classroom E.learning but also redefined by the proliferation of Distance education and E-learning. Expanded Internet access, Open Educational Resources, Massive Open Online Courses all are changing access to quality education world wide. For instance, Harward and MIT universities have lately invited the entire world to their free online courses. These technological innovations, technology of education are finally creating a possibility of realizing LINC's dream ie., "with today's computer and telecommunication

technologies every young person can have quality of education regardless of his or her place of birth or wealth of parents". The time has come now for the entire world in particular developing countries to test new innovations i.e, online courses for bringing quality in all our lives through education. India being developing country should not be apprehensive about technology. If we, Indians refuse to see the potential of new ideas and technology we shut ourselves from the possibilities the technology offers. ICTs are potentially, so powerful tools to extend educational opportunities especially for those for reasons of cost or because of time constraints unable to enroll on campus.

Challenges related to Colleges and Universities

The author would like to share some of these challenges, success stories due to technology enabled education and measures to overcome these challenges in this paper. Technology has brought in a paradigm shift in education i.e, 'National Education to Global Education' from 'Online Education' for a few to 'Life Long education' for all, from 'Teacher centric education' to 'learner centric education'. These changes have created challenges to the established education systems and practices at all levels of education in India particularly at college and universities. . Poor technological infrastructure support has been reported in many institutions of India (Srinivas 2012). The emerging online electronic universities will expose our country's strengths and weaknesses to the rest of the world. The regular universities in India may lose their intake if quality is not maintained inline with the standard of online courses in teaching and research. Infact, Innovative Technology provides opportunities for us to identify the needs of our communities and learners, envision solution by identifying technological resources and programmes to make it happen.

Continuous technological development and application of social network has been creating dramatic challenges and unlimited potential for innovations, requirements for knowledge and skills to function in this global society. This demands quality higher education at less cost, which will be a financial burden to the Indian universities. On line courses offered by the prestigious electronic universities will create challenges of allocating funds for rapid expansion of universities.

Barriers in the implementation of Online courses

Teacher related challenges

There have been various research studies highlighting the various barriers for the implementation of online courses across the globe such as while higher education institutions and students are enthusiastic about the online courses the faculty seems to be disconnected and lacking interest in e. learning. Nachimuthu (2012) identified barriers such as teachers' attitude lack of teachers confidence, resistance to change, poor administrative support, poor fit with the curriculum, poor training opportunities, scheduling difficulties many professors at the Universities poorly use the technology, their problem is not the innovation but their capability. Universities will have to work towards networking of teaching technologies, redesigning of uncurriculum and learning experiences, which can homogenize higher education system in the country. This requires finance, modern attitude of the authorities and teachers and enthusiasm to implement web-based teaching. Institutions will have to make sure the access of IT to the learners otherwise it may become unaffordable to students from under developed and remote areas or those from low socio economic status. Learners will have to be made familiar with the use of IT in classroom. This requires developing an adequate infrastructure. Preparation of students for a new web-based teaching environment is necessary.

Uma Joshi and others (2002) have identified challenges of web-based technology, in higher education. The first challenge would be in the area of teacher's education or teachers' training. Teachers will have to be ready and trained to use on-line facilities of teaching. Secondly, the sources of knowledge of students have become unlimited today. Teachers will have to be prepared to guide students to use these sources constructively. Teachers will face the challenges of redefining their role in web-based teaching. They will have to develop competence in teaching in the digital world.

Teachers will have to choose between various alternatives while planning web-based teaching such as, whether he/she wants to use online teaching when meeting together in class or when the learners are at a distance or a combination of both. Different strategies will be required depending on these choices. Teachers will have to be careful that in order to use online teaching they do not sideline the pedagogy. The purpose of web-based teaching is defeated if it denies learning opportunities to the large majority of learners. Therefore, the policies for online courses at government level and institutional level will have to be created to provide for such facilities and services, such as free supply of equipment etc. to the institutions.

D R Goel and Chhaya Goel (2013) have identified several challenges and issues related to teachers role in the digital age: It is an age of information and communication technology, but a large number of teachers at all levels are ICT illiterate. There is information explosion and media implosion in all facets of life and living, but still teachers have knowledge poverty. Most of them do not know how to access information. They are not skilled on surfing skills, such as, selecting, skimming, scanning, switching and authenticating. We do not have technology Integrated Education. Even now the technology has 'Guest Appearance' in our Education. Even in this Digital Age a large number of Teachers from pre-primary to higher education are not Techno-Savvy, Info-Savvy and Net-Savvy. We have very thin population of techno-savvy, info-savvy and net-savvy teachers. It is because the education system as a whole has been relatively indifferent towards techno-culture. Our education Radio, Educational Television, Education Computers, EDUSAT SIETs have lost their Education identities except EMRCs who are sustaining and enhancing their identities. It is because these have had a rich cultural heritage as well as will and zeal to modernize. Most of the Libraries countrywide are house of hard books and Journals. There is a need to enrich the libraries through e-books, e-Journal, e-news letters, CDs, DVDs and Digital Networking. Information explosion and constant geographical space demands storage of the learning resources to be in the digital form, the e-form. There is a need to modernize School, College, University and Public libraries.

Teacher Learner Related Challenges

Pathaneni Sivaswaroop (2003) has expressed views expressed by on line learners from the city of Hyderbad citing from Moore, 1997; Davison, 1996; Oliver, 1999, Janet al, 2000; East Mand, 1993, Robin et al 2001, Gehring, 2002: Online courses should provide a good joyful learning experience not just information; it requires proper financial planning and sustain students interest; Moore (1997) opines that there is a direct relation between quality of the programme and the quality of design process and capability of the trainers. A team of specialists need to be involved not alone by the best faculty; Gehring (2002) opines that investing in faculty training technical support and student support are the key requisites for the success of the online courses, he feels that mere investing in latest technology is sheer waste.

As online courses reach the drawing rooms work places, their own places, pace and convenience they need to be learner centered. The online learners need certain prerequisites for the success of their courses such as; access to the technological hardware, support system and get them to work well ; they may have to spend considerable time in learning how to use them (Davison (1996) ; learners need adequate support at the initial stages and it may be gradually reduced as in scaffolding (Oliver, 1999); The learners need to be informed about how to use them on line before they start studying on online (Janet al 2000) ; Moore (1997) reported that students in online felt lectures boring than video conference. They felt isolated and express the desire to interact as it has limited scope on online courses. In this Context Eastmand (1993) has suggested that www.as such is an inactive medium hence it has to be made vibrant as interactive with careful instructional design.

Though numerous, studies have shown that on line learning environments are not only feasible but they have many advantages over traditional education such as the convenience of asynchronous participation, a permanent record of the class and plethora of analysis tools (Hiltz, 1997; Kearsley 1998 as cited by Habibulla Shah and Firdos 2011) Like any new technology the implementations and optimizations of online learning environment needs research and experimentation over a period of time and more to avail the maximum potential this technology offers. For instance the following research evidence form a telelearning centre. Indira Gandhi National Open University, NewDelhi India highlights the feedback of an online course received from a small group of 20 BIT students of Hyderabad: Out of 20 T.Lc centres 80% are male and 20% are female students only. 70% of them have computers at home. However 65% of them are not web connected. At the beginning of the course 85% of them ranked them as average and remaining 15% as Novice/ no experience. 45% respondents felt no need for any training to study on line. Remaining 55% felt need for pre-training. 70% of them had good interaction with fellow students. These research findings reveal that E.universities need to prepare a perfect plan to launch on – line programme besides latest technology and best faculty, they have to concentrate on providing better learning environment student support services and training to faculty and on line facilities.

The growth of the internet and on line learning will be continuous challenge to institutions of higher education. A survey by Song, Singleton, Hill and Koh (cited by Vikas Taneja and Sakshi Parashar, 2011) focused on two aspects: components of on line learning environment that learners recognize as helpful in the learning processes; and components that are challenging in the on line learning environment. The following aspects were identified by the participants: design of the course, comfort with on line technologies and time management. Difficulties in understanding instructional goals and technical problems were both identified as challenges in on line learning environments. Hence effective instructional design for on line courses i.e., the design should focus not only on the technological aspects of the course but also on the goals, objectives and expectations for the learner; Assisting students with establishing community or feelings of connections in online contexts is very essential for the success of the online courses.

Language Related Challenges

In online courses languages play an important role in the present day global e-learning learners with different language capabilities find difficult to participate in the discussion as they need time to understand the dialogue and respond on asynchronous discussion. But by then the discussion might move forward and they may miss the track of

it. Moreover a timid learner may find it difficult to enter the online discussion. It may be either due to language problem as most of the Indian students learn English as a second language or lack of technological skills (Jan et al 2000).

Culture Related Challenges

Culture is an important issue in online education as it is global in nature, as Robin et al (2001) reported the interview of the several students. They have expressed that they had to transfer by themselves all the knowledge to their situation and all the examples were from Europe. This example highlights that prominence has to be given to various cultures of the student population in online courses lest they may find difficult to understand to given illustrations

Locale Related Challenges

Laxman Shinde (2012) rightly pointed out that more than two-third of India lives in the villages where majority of the population in illiterate continues to struggle for livelihood and dignified living. To some extent mass media and information technology have linked villages with the main stream interms of sharing information related to business accounting, weather trends and best practices in farming. It has been found that it is not easy to take IT to rural areas due to the problems like, rural environment, lack of infrastructural facilities lack of instructional facilities, lack of awareness, financial support, lack of coordination appropriate allocation of resources, literacy, lack of knowledge of English. Information technology professionals are not interested to go to villages as they think there is no scope, they prefer to go to cities, school teachers are not keen to learn computers as there is no incentive for extra work as computer literacy increases work load. There are no cyber cafes in villages. Due to lack of funds government has provided one or two computers, which doesn't help much, villages need internet connection, phone facility and extra funds for maintenance. Schools and colleges cannot afford it. There has been lack of co-ordination from near by private institution and other universities. Inorder to use computers knowledge of English's required. Due to language problem the students in villages hesitate to learn computers these are some of the challenges for implementing information technology in rural areas.

Hetrogeneity Related Challenges

Raju Narayana Swamy (2012) citing Tinio Victoria L. reveals that diffusion of technologies in Indian higher education scenario would respond to the twenty – first century demands. The contemporary higher education systems are aiming for acquisition of technology skills as part of the core education system. Given the wide disparities in access to ICTs between different groups there are serious concerns that the use of ICTs in education will widen existing divisions drawn along economic social cultural, geographic and gender lines. The introduction of ICTs in education, when done without careful deliberation, can result in the further marginalization of those who are already disadvantaged.

Technical Related Challenges

Madhukar's 2002, cited by Uma Joshi and others 2002 has identified certain impediments related to web based teaching in Indian context. They are limited band width and slow modems hamper the delivery of sound, video and graphics, therefore learners on online courses need to be wellversed in their technical skill, internet navigation and ability to cope up technical difficulties. The proliferation of databases and websites demand information management skills. Moreover access to the internet is still a problem for some rural areas and people with disabilities in India. Social isolation can cause passivity in online

courses. Online courses without support services can be a uphill battle for many students. In the context of formative and summative evaluation to use grade essays and performance assessment students require certain amount of personal interaction and communication.

In the new digital environment adaptive capability is the key to survival and growth. Reddy (2001) rightly says that universities in developing countries like India face obstacles such as paucity of funds, material resource, capital equipment, and infrastructure. This requires careful planning by all the stake holders which will certainly pool resources and exchanging expertise in the areas of shared interests.

Success Stories : Technology Initiatives in India

Though there have been several impediments identified by various researchers there have been success stories in Indian context too. India is making use of powerful combination of ICT's such as open source software, satellite technology local language interfaces, easy to use human – computer interfaces, digital libraries etc. with a long – term plan to reach the remotest of the villages. Community service centers have been started to promote – e-learning throughout the country. For instance, major initiatives and policy for introducing ICTs in higher education by Indira Gandhi National Open University (IGNOU) uses radio, television and Internet Technologies; National Programme on Technology Enhanced Learning: a concept similar to the open courseware initiative of MIT. It uses Internet and television technologies; Eklavya initiative: Uses Internet and television to promote distance learning, IIT- Kanpur has developed Brihaspati, an open soure e-learning platform; Premier institutions like IIM – Calcutta have entered into a strategic alliance with NIIT for providing programmes through virtual classrooms; Jadavpur University is using a mobile –learning centre. IIT – Bombay has started the program of CDEEP (Centre for Distance Engineering Education Program) as emulated classroom interaction through the use of real time interactive satellite technology; One Laptop Per Child (OLPC) programe has been introduced in Maharashtra (One Laptop Per Child, 2007).

Polices Related to Web Based Education

Nachimuthu (2012) has shared success stories related to educational portals for web-based education for instance various policies have been launched to improve access equity and enhance quality of education across the country. National Mission on Education through ICT, launched by Ministry of Human Resource development February 2009 is one of them. A national project Shodhganga with INGLIBNET which makes the research, by publishing theses in open access format, based on UGC gazette notification and it can be done for all 525 Indian Universities. Microsoft India has launched an exclusive website for teachers that will help educators in India and 107 other countries develop online connection with each other and share their educational plans.

In India, education undoubtedly is one of the most important investments in building human capital in a Country and a medium that not only sculpts good literate citizens but also makes a nation technologically innovative, thus paving a path to economic growth. In India, many programmes and schemes such as free and compulsory primary education, Education for All movement (Sarva Shijsha Abhiyan), National Literacy Mission etc have been launched by government to improve the education system.

Learning Related Initiatives

In the recent years there has been a groundswell of interest in how ICT has been deployed in the education sector. One of the most vital contributions of ICT in the field of education is easy access to learning resources. With the help of ICT, students can now

browse through e-books, results on the Net, online admission counseling, distance education virtual classroom,, online textbooks, scholarship information online sample examination papers, previous year papers etc., overseas education and educational loan can also have an easy access to resource persons, mentors, experts, researchers, professionals, and peers- all over the world. Some of the latest revolutionary changes and innovations in the field of education are conducting online common entrance examination, facilitating students to select the institutions and branches of their choice through web based counseling process and so on.

Vasudha Venugpoal (2013) has reported that once a supplementary tool or an assistive technology, online learning now is emerging as a fast, convenient and contemporary tool for students and teachers. For instances, Atano, An Educational eBook Store, launched its last-minute preparation packs for the CBSE and ICSE board examinations recently. In fact the company also offers a money-back policy. Many publishers have turned to manufacturing online content for students. For instance, classle.net, an online learning portal enables students to interact with various institutions and professionals. Once the students register themselves, they can attend online classes; internet with other professionals and experts in their field. Online learning here involves quizzes, projects, workshops and library and sometimes even stimulated group studies, special classes and test activities before exams. According to the website, nearly 45,000 students and professionals across the country and reputed engineering colleges like IIT Madras, IIT Patna and PSG college of Technology Comibatore are connected through the company. To tackle the shortage of faculty members, many colleges are in the process of installing e-learning systems in their laboratories. Many of them are also intended to assist teachers and aid students with extra training. "E-learning might be the best way to tackle poor-quality teaching", says E. Balaguruswamy cited by Vasudha (2013), former V-C of Anna University. ICT options such as e-learning and Edusat are available for educational institutions but you have lessons at untimely hours. "The strength of online learning pattern," he adds. E-learning platforms such as NPTEL, a collaborative attempt by IITs and IISc, have been received well by students. The IITs have more than 268 courses, giving any one with an internet connection access to over 10,000 video lectures. But it is heavily tilted towards science and technology, unlike universities abroad such as MIT, Harvard and Yale University each of offers over 200 free online courses in subjects including art, humanities, library science and environment, besides sciences and engineering. For the first time now, Anna university engineering syllabus too, is available to students of all branches. With animation and stylized audio-visual content, the application is meant to keep students engaged via small module. BSNL officials say the demand for the tablets is quite high, at least in private colleges where there is a shortage of good teachers. "An engineering student spends at least Rs. 5,000 a semester on engineering books and that too mostly secondhand books with outdated content. There are legal options for acquiring them online- Amazon and eBay. But those options are more expensive than print", says R. Madhusudhan cited by Vasudha (2013), internet security consultant with Anna University. Hence, many students depend on coding websites, engineering tutorials and a variety of sites that offer free books and peer-to-peer file-sharing site. Online learning methods are often dependent on what learning tools you normally use. "Official guides to GRE and GMAT and even course material have been online for a long time. The simulated tests on line CD are the closest to the actual test experience so the preparation is also largely dependent on online tools," says

Roshni Manikandan cited by Vasudha (2013), an English trainer with a GRE coaching institute.

Online learning is extensively used by many software companies. Besides, improved training costs, decreased material costs, there is a great deal of standardization e-learning platforms bring into training modules. While, for instance, last year British Telecom delivered e-business training to 23,000 employees in three months, Ernst and Young condensed about nearly 2,900 hours of classroom training into 700 hours of web-based learning, 200 hours of distance learning and 500 hours of classroom instruction, resulting in a significant cost cutting, say consultants. There is a great deal of discipline that online learning infuses in employees, feels Radhika Shekawat cited by Vasudha (2013), executive with IBM technologies. "On-line learning is the best way to gauge employee's capabilities and make sure they undergo refresher courses. There are timely tests, evaluations but it is between the employee and the project head. The practice tests are not even monitored which give every employee sufficient time to realize and work on her areas of strength." But for all these developments, there are at least some for whom e-learning is yet to be part of life "I will prefer print to online books. I get easily distracted, or not being able to underline the text does not make the process complete for me," said Aishwarya Gopalan cited by Vasudha (2013), a final – year MBA student.

Best Practices in Colleges of Education

Sunil Behari Mohanthy (2012) has cited Rama and Lakshmi (2008) regarding the best practices in the colleges of education to improve the quality of education through technology: They assessed the extent to which technology integration has taken place in selected teacher education institutes and the way in which it is attempted. Out of 275 responses, best practices of ICT integration were reported in 20 institutions. The study found that teacher education institutions have failed to provide adequate access to technology either due to limited availability of machines or time constraints in accessing the available technology. As regards nature of use of technology in teacher education, they stated that, "it is pertinent to note that most TEIs do not insist on the use of any technology, even those that are not computer based during teaching practice" (p.6). In case of 18% institutions, use of computers for curriculum design and development, CAL, teaching/ learning, including practice teaching, material development by teacher educators, research and development by teacher educators, research and development were found. About one fourth of these institutions used multimedia presentation. Descriptions of a few practices: B.D. Shah College of Education, Gujarat, Patel and Raval (2008) cited by Sunil Mohanthy (2012) reported that the ICT course helped teacher trainees develop skills in using MS publishers and CoreDraw software in preparing and designing the college magazine using the search engines in surfing Internet websites and keep themselves updated with latest information on various subjects of interest. They colud prepared digital lesson plans on their own in the school subjects; Dahiya (2008) cited by Sunil B. Mohanthy the institutions developed E-books and resource books and resource books for Education technology – towards Better Teacher performance and improved testing in research methodology and statistics;

Padma (2013) reports that St' Anns College of Education Autonomous) Mangalore has introduced 'Computer Education' paper in the B.Ed curriculum. All the students of the college B.Ed, M.Ed and Ph.D are encouraged to browse the internet in the college, for the preparation of their lessons, assignment, dissertation and Doctoral thesis. The faculty to use the LCD presentations regularly in curricular and co-curricular activities. The college to has

digital language lab and computer lab for the benefit of the students. ICT is focused in research teaching learning process and assignments very effectively.

Government Schemes and Polices in Higher Education

India has actively promoted the use of ICTs in education sector ranging from radio to satellite based interactive television. The GOI has implemented several national as well as state precise schemes that run parallel to large number of privately led ICT initiatives at school and higher education levels. The Knowledge Commission Report constituted in 2005 suggested for the creation of knowledge in science and technology laboratories. It also suggested for improving the management of institutions engaged in Intellectual Property Rights. Yashpal Committee gained a deeper understanding of the critical issues afflicting the Indian higher education (An Interim Report). The challenge that the universities and other higher educational institutions have to respond to is how to connect up the fragmented reality that has resulted from the powerful forces of modernity. The Twelfth Five Year Plan proposed for improved technology for education delivery at higher education level. Technology for enhancing the teaching – learning experience will ensure better outcomes. It suggests that India's higher education can be expected to be better aligned to industry and global practices, and be more transparent and inclusive by the end of Twelfth Plan Period, provided the Government is able to create an enabling regulatory environment and put in place robust implementation, monitoring and quality assurance mechanisms. The government intends in higher education institutions with a GER of 25.2% by the end of Twelfth Five Year Plan through the co-existence of multiple types of institutions including research – centric, teaching and vocation – focused ones (Higher Education in India, Twelfth Five Year Plan (2012-2017) and (Beyond).

Suggestions for the success of online courses

The success of the on line courses (Anjali 2007) through electronic universities depend on the content chosen. For instance electronic universities should help humanity to meet critical challenges such as hunger, homelessness, disease and pollution faced by several countries. The courses offered should contain feasible alternative solutions for solving global problems; Most uptodate research methods need to be undertaken by the centers of excellence recognized for higher quality to assist the researchers in all the developing countries especially in India; Electronic universities should improve and complement the existing higher education institutions. They should eliminate the fear of depersonalization caused by technology; E-university should become 'transpersonal' to address the needs of all the world's children for health care, education, food and clean air, water, feelings and ideas must be shared across the world. These universities facilitate electronic exchange of education affordable by reducing communication costs in their online courses. The poverty of the underdeveloped countries does not result from a lack of resources but from lack of learning, the ability of uses resources. Despite reducing the costs of exchanging courses and lectures, some countries like India cannot afford even the initial demonstration and experimentation. Anjali 2007 suggests developing and receiving software for every school and home. The forth coming combination of telephone, television computer, Satellite dish receiver and radio connected to the World Satellite Network can make it possible for the developing countries like India to by pass all of the interim steps and enter in to a global education system at affordable costs. Provide vouchers to the poor and underprivileged that allow students to connect electronically to the best possible education.

This kind of aid needs to be offered by Japan, Europe, Australia, and North America which would help the world's poor especially India to solve their problems.

The stakeholders should be convinced about the need of technology for teaching and learning. The consistency of the equipments and its integration into the classroom should be convinced. Establish clear lines of accountability of inspection and maintaining quality control of classroom technologies. Maintain supplies appropriately and take new approaches (including staff training) to guarantee speedy responses to breakdowns. Offer training programs and launch particular venues in which faculty can come together and exchange experiences with usage of software used for instruction. Universities should reorganize institutional support programs to formulate them as efficient as possible. To supply the finest opportunities for each student's learning the University needs to guarantee system than can deal with range of problems.

Maximizing students learning through ICT based pedagogy

Some of the researches show that focusing purely on the technology would be wrong. The main focus should be on learning rather than on technology. It is critical that research should explore not only the development of ICT to be used, but also the role of effective pedagogy that can maximize students' learning using ICT tools. It has been widely recognized that harnessing the power of ICT requires appropriate learning strategy to harmonize effectiveness in learning with technology role. On the other hand the significance of face-to-face instruction can't be ignored since the live human interaction in 'teaching' (or learning) can't be denied a large extent. Keeping all these in view, a consensus has emerged among educationists working in the area that there is a need for tapping the wide applicability of online learning with face-to-face instruction and then evolve 'Blended Learning'. In actuality, blending of face-to-face instruction with various types of non classroom technology mediated delivery has been practicsed. In general terms, blended learning combines online delivery of educational content with the best features of classroom interaction and live instruction to personalize learning, allow thoughtful reflection and differentiate instruction from student – to student across a diverse group of learners. In other words the integration of face-to-face and online learning to help enhance the classroom experience and extend learning through the innovative use of information and communications technology.

Government and National Support

Successful implementation of ICT requires strong national support from government and local support from relevant institutions and education authorities. Cost is an important issue that decides and guides the adoption and growth of Information and Communication Technology especially in developing countries, the institutions which are granted public status and are supported by government funds, as well as those, that are larger in size are the ones to adopt the new technologies to support education. However, it is also observed that since technology adoption involves high fixed costs, institutes, which implemented such technology, did not upgrade it as time progressed. The presence of an ICT integration has been initiated successfully. Along with ICT training, one needs and ICT related support mechanism to gradually induce the integration. This is needed as many teachers face technical difficulties may tend to revert to the older teaching (non-ICT based) methods. Teachers need support in using and integrating ICT into the curriculum and teaching. Teachers, who perceive greater ICT – related support being available to them, use technologies in their teaching much better.

Conclusion

It is true that technology enabled education especially the current invitation from Harward and MIT universities for free online courses to provide the quality of education all over the world for every young person regardless of his or her place of birth or wealth of their parents. The author of this paper strongly recommends that electronic universities entry through online courses should be permitted and encouraged in India inorder enhance quality of higher education. However this technological educational opportunity is going to create a number of challenges as reported earlier and an eye – opener for the developing countries in general India in particular for instance, Indian universities are forced to think of some measures to provide quality education at low cost in order to attract the students lest they may lose their intake due to online courses.

The Indian universities are forced to tackle the financial and infrastructure related problems in rural as well as urban areas of the country catering to the ICT needs and interests to provide quality education for the economically, socially, culturally, geographically, gender based and differently abled students by involving stakeholders and electronic universities in solving the problems. Indian universities are motivated to prepare a perfect plan to provide better learning environment student support, training faculty requesting electronic universities to grant a number of projects in this context. However electronic universities can utilize the expertise from the developing countries to design curriculum learning modules to make the online courses effective learner centric learner and learner friendly considering language and cultural related issues.

Indian universities too can take initiative in coordinating with private institutions with better infrastructure facility in the vicinity to provide conducive learning environment for technology enabled education. Universities can motivate the government of India to issue the loan with no interest to purchase the computers with internet facilities. They should all see that telephones are technically improved to have better and easy internet access and they should make local calls free to make internet accessing affordable. It is advisable to electronic university to think and work together with well establish to universities to extend their educational facilities through a number of projects to the aspiring youth, needy and under privileged.

For improved quality of education in online courses 'learning teams' need to design 'educational modules' that are adaptable from every country to country to improve the quality of instruction. To sustain higher quality, a contribution of international access connecting both students and teachers to the places where the best quality exists. The global higher education network should work as a window on the world helping everyone to get connected to an electronic learning center for all ages, a place for guidance, testing, tutoring, counseling and acquiring the skills in using the electronic technology that one uses to learn at home and at work. Online courses should nurture our minds our capabilities beyond levels of literacy to new levels of understanding and intelligence. They should empower the learners as better thinkers learners and problem solvers; Electronic university should transform it self as a 'Global village Green' where we meet to explore how to be better human beings and care for ourselves, our culture and our planet. Online courses should create safe, supportive and vital learning community so that they listen to each other with care and compassion work in coordination.

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