ICT in Higher Education: Opportunities of Urban Colleges and Challenges of Tribal Colleges

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Abstract

Today, education has been an important instrument for social and economic transformation. Presently higher education in Maharashtra is experiencing a major transformation in terms of access, equity and quality. This transition is highly influenced by the swift developments in information and communication technologies (ICTs) in Urban Colleges. The introduction of ICTs in the higher education has profound implications. Availability in Tribal Colleges very poorly. Opportunities of ICTs for the whole education process especially in dealing with key issues of access, equity, management, efficiency, pedagogy and quality. At the same time the optimal utilization of opportunities arising due to diffusion of ICTs in higher education system presents a profound challenge for higher educational institutions. In this backdrop, the paper addresses the opportunities and challenges posed by integration of ICTs in various aspects of higher education in the present scenario.

Keywords
Information and Communication Technology (ICT), Higher Education, Quality, Accessibility, Availability, Behaviors.

Introduction:

Higher education systems have grown exponentially in the last five decades to meet the demands of quality education for all. This aspect has further gained momentum due to swift advancements in Information and Communication Technology (ICT). Demand for skilled and competent labor is ever increasing in the contemporary globalized society. In this backdrop, access to quality in higher education for all has emerged as determining factor of economic growth and development. In order to increase the access to higher education and improving its reach to the remotest parts of the country contribution of open and distance learning facilities is on the increase. In addition, it is catering to life-long learning aspirations and that too at affordable cost. The last two decades have witnessed the inclusion of developments in ICTs in higher education systems around the world. Even then the challenge to develop a higher education system that is flexible and dynamic so as to holistically integrate the technology in the management and delivery of learning programmes is daunting. The first section presents briefly the present profile of higher education in India. Role of ICTs in higher education and the areas in which they can be integrated to play prominent role are discussed in the second section. The final
section explores the challenges in expanding the role of ICTs for future development in higher education.

**Trends in Growth of Higher Education in India:**

Though higher education is very old in India, modern higher education in India began with the establishment of Hindu College in Calcutta in 1817. By 1855, there were 281 High Schools and 28 Colleges. To regulate them, three universities; Bombay, Calcutta and Madras were established in 1857 by then British Indian Government. The growth continued un-impeded and by 1947, there were 19 universities, 496 colleges with 2,40,000 students. University Education Commission, 1948-49 (popularly known as Radhakrishnan Commission) emphasized the need for setting up an apex body to coordinate the growth and development of education at the tertiary level and maintenance of standards in education. Thus, the University Grants Commission (UGC) came into existence by an Act of Parliament in 1956.

In the last five half decades, the growth of higher education presents a very impressive picture. There has been commendable quantitative expansion in terms of students’ enrolment, number of teachers, colleges, universities and research degrees.

**ICT enabled Education- an Overview:**

The Information and Communication Technology (ICT) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer, and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. When such technologies are used for educational purposes, namely to support and improve the learning of students and to develop learning environments, ICT can be considered as a subfield of Educational Technology. ICTs in higher education are being used for developing course material; delivering content and sharing content; communication between learners, teachers and the outside world; creation and delivery of presentation and lectures; academic research; administrative support, student enrolment etc.

In the current information society, people have to access knowledge via ICT to keep pace with the latest developments. In such a scenario, education, which always plays a critical role in any economic and social growth of a country, becomes even more important. Education not only increases the productive skills of the individual but also his/her earning power. It gives them a sense of well-being as well as capacity to absorb new ideas, increases their social interaction, gives access to improved health and provides several more intangible benefits. The various kinds of ICT products available and having relevance to education, such as teleconferencing, email, audio conferencing, television lessons, radio broadcasts, interactive radio counseling, interactive
voice response system, audiocassettes and CD ROMs have been used in education for different purposes.¹ (https://www.google.co.in#bhatt College)

Today ICTs – including laptops wirelessly connected to the Internet, personal digital assistants, low cost video cameras, and cell phones have become affordable, accessible and integrated in large sections of the society throughout the world. It can restructure organizations, promote collaboration, increase democratic participation of citizens, improve the transparency and responsiveness of governmental agencies, make education and health care more widely available, foster cultural creativity, and enhance the development in social integration. It is only through education and the integration of ICT in education that one teaches students to be participants in the growth process in this era of rapid change. ICT also allows for the creation of digital resources like digital libraries where students, teachers and professionals can access research material and course material from any place at any time (Bhattacharya and Sharma, 2007)². Such facilities allow the networking of academics and researchers and hence sharing of scholarly material. This avoids duplication of work.

The UGC initiated scheme called “ICT for teaching and learning process” for achieving quality and excellence in higher education. Network facilities with the help of ERNET, Ministry of Information and Technology, Government of India were installed at UGC office to promote a healthy work culture. Along with this UGC launched a mega programme namely, ‘UGC INFONET’, a network of Indian Universities and Colleges, by integrating Information and Communication Technology (ICT) in the process of teaching, learning and education management. The network is managed by ERNET India and almost all the universities are its members. Information for Library Network (INFLIBNET), an autonomous Inter University Centre of UGC is the nodal agency for coordination and facilitation of the linkage between ERNET and Universities. Training programmes for the manpower were conducted to manage the ERNET facilities and other aspects of systems including electronic subscriptions. In addition, UGC is encouraging creation of e-content / learning material for teaching learning process and management of education in colleges and universities.³

Role of ICT in Higher Education:

Swift growth of ICTs is taking place all over the world. They have emerged as powerful tools for diffusion of knowledge and information. Their introduction and unprecedented use in the higher education has generated varied response. The opportunities can be categorized as the aspects relating to role of ICT for access and equity in education, their role in pedagogy for quality learning and teaching at higher education level and in inducing innovations in approaches and programmes.
Access and Equity in Higher Education:

Presence of ICT in the education sector is increasing steadily. In spite of the fact that education is a social enterprise and teachers are traditionally the mainstay of teaching learning process, ICTs are a very powerful tool for diffusing knowledge and information, a fundamental aspect of the education process. ICTs can play a significant role in improving access and equity in the education sector in general and higher education sector in particular.

The 11th Plan proposed to achieve the target of 15 percent GER by 2012 through the increase in institutional capacity and increase in ‘intake capacity’ of existing educational institutions. These efforts are also experiencing the push created in this direction through the consistent rise in enrolment at the elementary level and secondary level. The demand for higher education is expected to rise steeply in the forthcoming years under these influences. ICTs lend themselves as an ideal mechanism to bridge this gap by complementing both formal education systems as well as distance learning systems (Neeru, 2009).

Role of ICTs in Pedagogy for Quality Teaching Learning⁴:

Another most important dimension of the higher education sector influenced by ICT integration is improving the quality of teaching-learning. Also, the changes taking place due to globalization and internationalization attach premium to knowledge and information. Therefore, the integration of ICTs would not only help in promoting personal growth but also in developing “knowledge societies”. The call of the hour is the need to provide education for everyone, anywhere, and anytime. Life-long learning has become the driving force to sustain in the contemporary competitive environment. Therefore to strengthen and/or advance this knowledge-driven growth, new technologies, skills and capabilities are needed.

Conventional teaching-learning processes are undergoing a paradigm shift. Focus of instruction is now on education programs/practices that promote competency and performance. Such curricula tends to require access to a variety of information sources, information forms and types; student centered learning settings based on information access and inquiry; learning environments centered or problem-centered and inquiry-based activities, authentic settings and examples; and teachers as coaches and mentors rather than content experts (Neeru, 2009). The shift towards development of educational programs is well supported by and encouraged by the emerging instructional technologies.

Apart from enhancing student’s learning experience, role of ICTs in capacity building/training of educational personnel has very large potential. National level institutes can provide leadership role in enhancing technical and managerial manpower in different disciplines through ICT networks and collaborations. Technology facilitated learning would result in preparation of staff regarding innovative pedagogic methods, new ways of learning and
interacting, easy sharing of new practices among teaching community and result in widening the opportunities for their participation. The capabilities of competent and trained teachers/academic experts can be made available to larger audiences/students through flexible and virtual settings.

**Innovative Approaches for Teaching:**

ICTs have the potential to drive innovative and effective ways of teaching-learning and research. The inclusion of learning tools, easier use of multimedia or simulation tools, easy and almost instant access to data and information in a digital form which allows for computations and data processing generates possibilities which were otherwise not feasible. The possibility to diffuse these innovations and complement the learning content to improve quality in higher education through innovative pedagogic methods is high. The focus on ICTs to back quality research through utilization of rigorous research methodology and in-depth analysis is the call of the hour.

**Potential Drawbacks-cum-Challenges to Using ICT in Education:**

While using ICTs in education has some obvious benefits, ICTs also bring challenges. First is the high cost of acquiring, installing, operating, maintaining and replacing ICTs. While potentially of great importance, the integration of ICTs into teaching is still in its infancy. Introducing ICT systems for teaching in developing countries has a particularly high opportunity cost because installing them is usually more expensive in absolute terms than in industrialized countries whereas, in contrast, alternative investments (e.g. buildings) are relatively less costly (UNESCO, 2009).

The four most common mistakes in introducing ICTs into teaching are i) installing learning technology without reviewing student needs and content availability; ii) imposing technological systems from the top down without involving faculty and students; iii) using inappropriate content from other regions of the world without customizing it appropriately; and iv) producing low quality content that has poor instructional design and is not adapted to the technology in use (UNESCO, 2009). Although ICT offers a whole lot of benefits there are some risks of using ICT in education which have to be mitigated proper mechanisms. They are:

- It may create a digital divide within class as students who are more familiar with ICT will reap more benefits and learn faster than those who are not as technology savvy.
- It may shift the attention from the primary goal of the learning process to developing ICT skills, which is the secondary goal.
- It can affect the bonding process between the teacher and the student as ICT becomes a communication tool rather than face to face conversation and thus the transactional distance is increased.
- Also since not all teachers are experts with ICT they may be lax in updating the course content online which can slow down the learning among students.
The potential of plagiarism is high as student can copy information rather than learning and developing their own skills.

There is a need for training all stakeholders in ICT.

The cost of hardware and software can be very high.

**Conclusion:**

The increasing use of information and communication technologies (ICTs) has brought changes to teaching and learning at all levels of higher education systems (HES) leading to quality enhancements. Traditional forms of teaching and learning are increasingly being converted to online and virtual environments. There are endless possibilities with the integration of ICT in the education system. The use of ICT in education not only improves classroom teaching learning process, but also provides the facility of e-learning. ICT has enhanced distance learning. The teaching community is able to reach remote areas and learners are able to access qualitative learning environment from anywhere and at any-time. It is important that teachers or trainers should be made to adopt technology in their teaching styles to provide pedagogical and educational gains to the learners. Successful implementation of ICT to lead change is more about influencing and empowering teachers and supporting them in their engagement with students in learning rather than acquiring computer skills and obtaining software and equipment. ICT enabled education will ultimately lead to the democratization of education.

**References:**


(https://www.google.co.in/#bhattter_college)