
Role of ICT in Teaching - Learning in Higher Education – Shifting Paradigm

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The influence and impact of Information and communication technology (ICT) has become an indispensable entity in all aspects of life in the contemporary world. The sphere of education is no exception to this. The benefits of the use of Information and Communication Technologies (ICT) in Education are no longer unknown. Though ICT has begun its presence in higher education in the country but the impact has not been as extensive as in other fields. But in a world where digital divide is fast vanishing, the role of ICT in education is highly relevant and indispensable. Especially in dealing with key issues of access, equity, management, efficiency, pedagogy and quality. ICT is invading every aspect of our society at an astronomical rate and there is not a single area in human endeavor that ICT has spared. This paper analyses the multifarious impacts of ICT on contemporary higher education and explores potential future developments. The paper also highlights how the ICT facilitated the transformation in teaching and learning process in India and the challenges embedded in this transformation and major impediments that have resulted in slow penetration of ICTs in higher education institutions

Keywords: Information, Communication Technology, Digital and Education.

Introduction

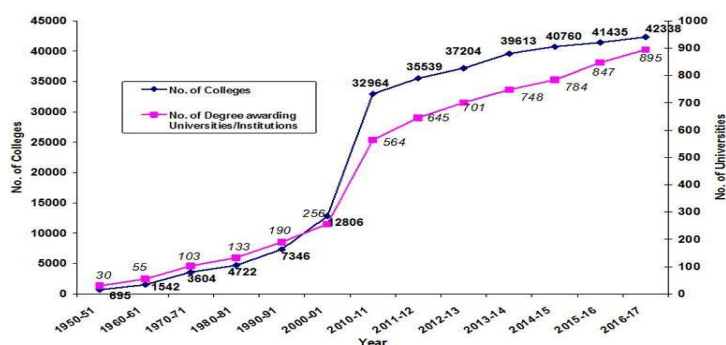
Education is perceived as vital instrument for social and economic transformation across the world. The efficacy of education in human development index can never be understated. Education is fundamental to every constituent of society irrespective of gender, physical, racial, economic, geographical, cultural, or linguistic differences. Education is the lifeline of a nation and undoubtedly any developed nation will inevitably be an educated nation. Education is one of the major contributors to economic wellbeing and employment evolvment of human race. It augments economic progress and attracts jobs and investments. It is the best route to tackle economic depravedness and for attaining financial inclusion.

India has a billion-plus population and a high proportion of the young, and hence it has a large formal education system. The demand for education in developing countries like India has skyrocketed as education is still regarded as an important bridge of social, economic and political mobility (Amutabi, 2003). India's higher education system stands third in size in the world after the US and China with nearly 46 million students in over 900 universities and around 43000 colleges (UGC, 2019). The role of Higher education in the evolvment of a country to a knowledge-based society is substantial.

This quantitative explosion in higher education institutions and students have not been matched by the quality and reach of the education it offers. The gap between quantity and quality is so huge and it stands as one of the major hurdles in the way of India being a world leader in higher education.

Number of Universities & colleges in India

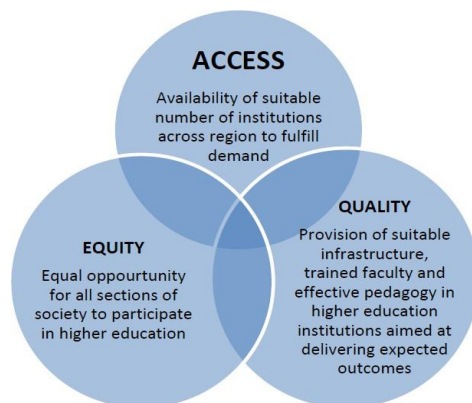
Access, Equity and Quality are the major challenges faced by the higher education in India. Widening the access is extremely important for increasing the gross enrolment ratio (GER), equity is vital in order to ensure that under-privileged/ geographically remote communities share the benefits of education and equally important is quality.



Source: University Grants Commission

For India to emerge as a knowledge super power of the world in the shortest possible time it is imperative to convert our demographic advantage into knowledge powerhouse by nurturing and honing our working population into knowledge or knowledge enabled working population.

Challenges of access, equity and quality



Source (Shaguri, 2013)

Role of ICT in Higher education

Technology has brought in major changes in the way education is imparted. Teaching and learning process has evolved from being a one-sided activity to an active process involving

exchange of ideas. Indulgence of various creative tools and techniques has made the process a collaborative initiative. (Loing, 2005) opined one of the several challenges as “the diversification of learner population, and of institutions and programmes; the permanent upgrading of knowledge contents and a growing need for lifelong learning: here again universities have to meet this challenge and can probably do it only with the help of ICT educational applications” .

ICT is an effective tool for making swift information-exchange, affordable and for democratizing the process of education. It changes the reach of education as well as the way teachers teach and students learn, ultimately bringing better learning outcomes. ICT influences and empowers teachers and facilitates them in their engagement with students in learning rather than acquiring computer skills and obtaining software and equipment. Implementation of ICT will foster better teaching and improved academic achievement of students. According to (Daniels, 2002) ICTs have become, within a very short time, one of the basic building blocks of modern society. Education is traditionally viewed as a class room activity and quality education has been associated with academically enriched and qualified teachers sharing personal contact with student community.

(UNESCO, 2010) defines ICT as the forms of technology that are used to transmit, process, store, create, display, share or exchange information by electronic means. This definition of ICT includes such technologies as radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, and computer and network hardware and software, as well as the equipment and services associated with these technologies, such as videoconferencing, e-mail and blogs. The list of technologies that ICT encompasses has been updated daily as new technologies are invented or designed. Thus, say ICT is a generic term that refers to technologies, which are being used for collecting, storing, editing and communicating of information in various forms from one user to another.

Realizing this, in India the National Mission on Education through Information and Communication Technology (ICT) has been envisaged as a Centrally Sponsored Scheme to leverage the potential of ICT in teaching and learning process for the benefit of all the learners in Higher Education Institutions in ‘any time anywhere’ mode... The Mission has two major components - providing connectivity, along with provision for access devices, to institutions and learners; and content generation.

Higher Education Institutes (HEI) engage ICT for content development, sharing and delivery, facilitating student – student communication, peer group and with the academic society(Alexander, 1999) . The multifarious influence of ICT is also seen in digitalizing libraries, development and delivery of presentation for seminars, conference and class room lectures, aiding academic research, augmenting administrative support, student enrolment etc. ICTs lend themselves as an ideal mechanism to bridge the gap by complementing both formal education system as well as distance learning systems (Neeru, 2009)Contemporary ICTs are able to provide strong support for all these requirements and there are now many outstanding examples of world class settings for competency and performance-based curricula that make sound use of the affordances of these technologies (Oliver, 2000) .

In the present scenario literacy means digital literacy and without the aid of ICT a teacher cannot perform his/her sessions class room. If the teacher fails to equip him/her in ICT there will exist a technological gap between the teaching and learning.

Conclusion

Rapid harnessing of technology by Higher Education Institutes (HEI) in India will facilitate transition from an industrial society to information society which will be dotted by robust, accessible, equitable and quality higher education system that promotes quality teaching, learning and research in these centres. Better utilization of ICT will enable to cease educational gaps and to remove the enormous disparities in educational access, inclusion and achievement. The harnessing of ICT to higher education will translate Indian higher education as more “globally relevant and competitive” in terms of emergence of globally-reputed institutions, luring international students, faculty and institutions, becoming a hub for global talent, and building a culture of academic research, innovation. Higher education will fuel accelerated economic growth and will enable Higher education institution to be more ‘Career-focused’ and ‘Research-focused’ institutions than just degree awarding centers.

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