REVIEW ARTICLE

Importance of ICT in Education: Trends, Problems, and Prospects

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ABSTRACT

The importance of information and communication technology (ICT) has transformed many aspects of the educational scenario of our country. The introduction of ICT in education has opened the pathway for the better facilitation of learning for students as well as the teachers. During the period of Covid pandemic in India, online learning or E-learning became increasingly popular and facilitated the learners to experience all the benefits of learning outside the walls of the conventional classroom teaching and learning process. Even students with special needs can optimally secure the benefits of ICT with access to study materials online and special learning technologies, often curated for the less privileged to offer feeling of inclusivity and optimum development. This paper tries to lay focus on the trends and prospects of information and communication technology in the domain of higher learning and explore the different opportunities that it can provide to the sector of higher education to embrace the global environment for the personal growth and creative collaboration of the learners with the outside world.

Keywords: Education, Information, Technology, Creativity, Globalisation.

Introduction

Information and Communication Technology (ICT) is a multidimensional platform of technological tools and resources primarily used to communicate, create, disseminate, store, and manage information. This umbrella definition of ICT incorporates into educational practices the use of technologies like television, mobile, satellite systems, computers, both hardware and software as well as equipment and services associated with these technologies, such as video conferencing and electronic mail (UNESCO, 2002). ICT plays a major role in providing educational opportunities in remotest of areas and encourages the present as well as the future generations to actively participate in exploring educational opportunities as a tool to research, organise, evaluate the fundamentals of e-learning.

In the 21st century, the facilitation of common masses to information and communication technology has become the top priority of every nation. The universal accessibility to information and communication technology, often coded in terms of law, has become one of the prominent features of every developing and under developed nation. Human potentiality often strives for betterment in every aspect of life and this ability of acquire knowledge further gets satisfaction in disseminating the acquired knowledge. Therefore, transfer of knowledge becomes one of the most important pillars of learning and can be recognised and appreciated as one of the distinctive achievements of human society. At such a crucial time when transition from the traditional set

up of educational classrooms to smart classrooms of innovation and inventiveness has become impertinent, the adaptability and adaptiveness of teachers to technological practices creates ideal opportunities for creating and presenting visually enriched learning environment for the learners. The progressive and rapid development of Information and Communication Technology (ICT), being one of the technical wonders of the present world, powers our accessibility to information, enables the discovery of new forms of communication, and facilitates the introduction of many online services in the sphere of commerce, culture, environment, and education.

ICT in Higher Education:

The major teaching and learning obstacles in higher education centre around student diversity in multiple areas. Different academic background of students, language barriers, and different mediums of instructions in rural and urban schools create diverse student communities. Therefore, the use of information and communication technologies (ICT) plays a role of inclusivity in bringing all under the same paradigm. Integrating ICT in educational reform has been one of the key agendas of the government. ICT is necessary to be viewed as "an essential aspects of teaching cultural toolkit in the twenty-first century, affording new and transformative models of development that extend the nature and reach of teacher learning wherever it takes place" (Leach, 2005). ICT can play an important role for the integration of developing countries into the globalized world. The fact that ICT can revolutionize the teaching methodologies has been accepted by the academic fraternity. The innovation or inventiveness of ICT lies not only in the introduction of technologies but its role as a contributor to the student-centred mode of teaching and learning.

The Information and Communication Technology (ICT) curriculum provides an umbrella spectrum not only on the use of technology in the educational environment but also gives a wide idea about its usage and application in a variety of environments and the crucial role it plays in the life of the self and society. Technology not only implies the ways in which things are done but also elaborates the processes, tools and techniques that can alter the communication methodologies. ICT brings about changes in the ways people communicate with each other, enquire about new subjects, make decisions about the learning process, and develops problem solving attitude.

Academicians have experienced the sharper and more adaptable edge of ICT in the teaching scenario in comparison to the traditional audio-visual aids. Since the covid 19 pandemic, there has been a noticeable and increasing trend in the introduction of E-learning or online learning facilities both in courses taught in campus and in distance learning. Whether online learning reduces the cost of fee structure in particular circumstances or not, ICT in general and online learning in particular has reduced the barriers to entry to the higher education business. Many failures in the education industry have revealed the fact that ICTs should be introduced in a systematic manner that can bring clarity and effectiveness to the entire educational scenario through cost-benefit analyses.

ICT according to several critical thoughts of both from the constructivist and instructive theories of learning have enhanced teaching, learning and research experiences of learners. Behind this utmost devotion to the role of technology in higher education lies the implicit acceptance of technology by various shareholders, either as neutral and autonomous or as students and faculty members.

A review of literature has been conducted taking the time period of 2003 to 2010 regarding the usage of ICT in higher education. Bennett and Bennett (2003) studied the influence of perceived characteristics of instructional technology on the behaviour of faculty members and their willingness to integrate it in the classroom teaching learning scenario. It has been observed that the implementation of information technology in the traditional classroom scenario does not get prohibited due to the lack of technological issues or lack of funds. But what impedes the implementation of ICT is the reluctance of teachers to embrace the new educational technologies. Merkus Mostert (2009) has reflected upon the integration of educational technologies in the classroom situations of South Africa. He stresses on the need of teaching the professionals in education the pros and cons of the ICT in classroom situations. Educators all over the world feel the need of incorporating ICT in everyday classroom situation to overcome the challenges that the traditional learners may face in an extremely digitalised world. Many countries in the world are opting for ICT in lieu of traditional method of

teaching learning process to bridge the gap between demand and supply ratio of higher education. However, at this essential juncture, it will be too early to predict whether ICT can outgrow traditional ways of learning or it is merely a repackaging of earlier pedagogies.

The use of Information and Communication Technologies (ICT) in educational environment can be broadly divided into two categories: ICTs for education and ICTs in education. ICTs for education refers to the incorporation or integration of information-based technology for the better facilitation of teaching and learning process and ICTs in education refers to the process of adaptation to communication technologies in the teaching learning process. Success of ICT based learning depends on the ability of the teacher to comprehend the components of technological aspects and analyse the same in the classroom situation in a comprehensive manner. The main role of the teachers in ICT based classrooms is not to deliver mere knowledge but to make the students participate enthusiastically in the technology-based teaching learning process through innovation and inventiveness. The use of ICT in higher education administration is mainly about incorporating technological changes for better planning and better promoting of the standards of higher education. Three conditions are of utmost importance for the better facilitation of the teachers to integrate communication technology in the teaching learning environment. Firstly, the teacher should believe in the usage of technology. Secondly, the teacher should have trust on the issue that technology will support and increase the effectiveness of traditional modes of teaching. And lastly, the teacher should have sufficient control on the usage of technology. The use of educational technology provides an entire platform of experiencing a wide range of possibilities and future opportunities. ICT has enabled the change of role of teachers from a knowledge transmitter to facilitator of learning.

An analysis of the integration of Information and Communication Technology (ICT) in education involves the consideration of three important pragmatic approaches in the inventiveness of education that can mould the academic institutional culture of teachers in college and university level and in the domain of personal development of teachers. The dimensions of college and university level education that need to be considered for the better implementation of ICT directives are alterations in the objectives of education, in the conception of teaching and learning process at the higher education level, changes in the traditional roles of the students and teachers, and finally changes in the traditional organizational set ups of the colleges and universities. ICT has helped the students to gain various benefits of e-learning, browse different categories of e-books, scrounge for sample question papers of previous years, have contact with various resource persons from various fields, download study materials from different educational websites, to become aware about incidents and discoveries from various international platforms etc. This flexible opportunity of being in touch with the outer world through ICT has heightened the domain of learning for most of the students and provided learning opportunities to learners who previously were constrained by other difficulties or commitments. Teachers could make the learning environment more friendly and attractive by using multimedia while the students can complement the classroom lectures with other resources from web.

Information and communication technology (ICT) also paves the way for the creation of digital resources using digital libraries which can enable the easy access of teachers and students to various study and course materials at any place and at any time. Networked computers with internet connectivity can motivate the learners in topics and subjects which may otherwise seem difficult to some by combining the media richness and interactivity of the ICTs to remain connected with the real people and to participate in real world events. Communication technologies have placed the learners at an advantageous position by allowing them to gain access to a variety of materials. Therefore, it can be said that Information and Communication Technology enhances the qualitative education by increasing the learner motivation, and by facilitating the acquiring of new skill and talent at a great speed by the digitalised medium.

Conclusion

Appropriate usage of Information and Communication Technology (ICT) can work as a catalyst for bringing about paradigmatic shift in both content and pedagogy that remains the central focus of the educational reform at the twenty-first century. When used appropriately, ICT can enable the growth of both

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teachers and students in the teaching and learning environment. This new environment of teaching and learning scenario can shift the focus of teaching and learning atmosphere from teacher-centric to student-centric environment. If designed and implemented properly, ICT centred education can revolutionize the ways of acquiring knowledge and skills that will empower students for lifelong education.

Especially after the Covid-19 pandemic, integration of ICTs in higher education has become the need of the hour. The Indian government has already emphasized the need of digitalised education both in open and distant learning modes. Teachers are in continuous process of adapting themselves to the world of information and communication technology. The wide incorporation of information and communication technology require the development and sustainability of new skill sets, capabilities and attitudes that are adaptive to change. As the Indian government is investing heavily in the education sector for the future growth and productivity of the country, continued efforts must be made to ensure the value and sustainability of educational technologies for the future growth of the country.

References

[1]. Bennett, J., & Bennett, L. (2003). A review of factors that influence the diffusion of innovation when structuring a faculty training program. Internet and Higher Education Vol. 6, Pp. 53-63.

[2]. Bhattacharya, I. & Sharma, K. (2007). India in the knowledge economy – an electronic paradigm, International Journal of Educational Management.

[3]. Markus Mostert and Lynn Quinn (2009). Using ICTs in Teaching and Learning: Reflections on Professional Development of Academic Staff, International Journal of Education and Development using ICT, Vol. 5, No. 5.

[4]. S. Neeru (2009). ICT in Indian Universities and Colleges: Opportunities and Challenges, Management and Change, Vol 13, No 2, 2009.

[5]. UNESCO (2002). Open and Distant Learning Trends. Policy and Strategy Considerations, UNESCO.