

Importance of ICT: Teaching and Learning Enrichment

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Abstract – There are certain unavoidable facts that need to be taken care of when we talk about the current trends and innovations in our system of education. Many educational reformations are also taking place. One amid is Information and Communication Technology (ICT). ICT stands for information and communication technology. ICT include the use of hardware and software for efficient management of information and it also includes communication devices like radio, television, cell phones, computer, satellite systems and many more. It refers to that technology which is used to transmit, store, share, create or exchange information. Innovations in technology and globalization have led to an enlarged the use of ICTs in all sectors. In modern era, the world is moving rapidly towards digitalisation such as e-governance, e- health, e- education etc. The function of ICT in education has developed into more important and this importance will continue to raise and expand in 21st century. It has added a facet to learning that was not available beforehand. With the incorporation of ICT in educational sector, the customary forms of teaching and learning are changed into online and virtual environment. ICT can endow with universal access to education, helps in professional development of the teacher, the delivery of quality teaching-learning, equity in education, more efficient educational management, governance and administration. The increasing use of information and communication technologies (ICTs) has revolutionized the teaching-learning process in the 21st century. The use of ICT in education not only improves classroom teaching learning process, but also provides the facility of e-learning and distance learning to the learners. It is commonly believed that ICTs can be proved supportive in empowering teachers and learners, making important contributions in educational field. In the present era, everyone can have access to teaching material at own level and consult many experts by video conferencing from all over the world. Currently, a teacher is been teaching his students through the use of ICT even though they are geographically scattered. People are using ICT in every walk of life for their various purposes and also from higher educational books to online courses that all are beneficial for the learners in 21st century. We can't imagine a day without ICT. Today, world without ICT means we do not have any information about the events that are occurring around. It has become a part and parcel of life. Thus, present paper will highlight the urgency and needs of ICT in teaching learning process. The researcher will also highlight the key challenges of educational sector at present time.

Keywords – Information and Communication Technology, ICT- Enhanced Learning, Innovations, Educational Reformations, Digitalisation, E-Governance, E-Health, E-Education.

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INTRODUCTION

Globalization and technological changes procedure that have speed up in tandem over the past fifteen years—have created a new global economy “powered by technology, fueled by information and driven by knowledge.” The emergence of this new global economy has stern implications for the nature and purpose of learning organization. In recent years there has been a upsurge of interest in how ICT can best harnessed to improve the efficiency and effectiveness of education at all levels and in both formal and non-formal settings. ICT emerge as a potentially powerful enabling tool for educational change and reform in the 21st century as the world is moving rapidly towards digitalization such as e-

governance, e- health, e- education etc. Education played very important role in building the society. It determines the standard of society. The quality education helps to empowering the nation in all facets by providing new thoughts, new ways of implementation of various technologies and so many such things. There are number of useful teaching & learning methodologies in tradition. ICT is the most effective way to boost the student's knowledge and the role of ICT in the education sectors becoming more important and this importance will continue to grow and develop in the 21st century. Nowadays ICT plays inevitable role in the process of integrating technology into the educational activities. Many educational reformations are taking place in the current

scenario. One among them is Information and Communication Technology (ICT). ICT stands for information and communication technology. ICT include the use of hardware and software for efficient management of information and it also includes communication devices like radio, television, cell phones, computer, satellite systems and many more. It refers to that technology which is used to transmit, store, share, create or exchange information.

With the advent of ICT, people are helped for expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by among others, made teaching and learning into an engaging, active process connected to real life. Though, the experience to initiate the different ICTs in the classroom and other educational surroundings all over the globe from the several decades suggests that the full realization of the potential educational benefits of ICTs is not automatic. The valuable integration of ICTs into the educational system is a complex, versatile process that involves not just technology—definitely, given enough initial capital, getting the technology is the easiest part, but also curriculum and pedagogy, institutional readiness, teacher competencies, and long-term financing, among others..

CURRENT SCENARIO

In the present era, we are living in a constantly developing digital world. Now a day's, ICT has revolutionized the social, political and economic aspect of our life. ICT has an impact on nearly every aspect of our lives – from working to socializing and learning to playing. The digital age has changed the way young people communicate, network, seek help, access information and learn. We must know that young people are now an online population and access is through a variety of means such as computers, TV and mobile phones. It is in this basis that educational technology and e-learning is taught in or out of the classroom since educational technology is used by learners and educators in homes, schools, businesses and other settings. ICT has become an integral part of everyday life for many people. It increases its importance in people's lives and it is expected that this trend will continue, to the extent that ICT literacy will become a functional requirement for people's work, social, and personal lives. ICT has the potential of promoting jobs and entrepreneurship and contributing towards the socio-economic development of the country as a whole

NECESSITY OF ICT IN 21ST CENTURY

1. For online learning or E-learning

E-learning encompasses learning at all levels, both formal and non-formal, that uses an information through network—the Internet, an intranet or extranet

whether wholly or in part for the course delivery, interaction and facilitation. There are various courses that are done by the use of technology like Swayam, Swayamprabha and MOOCs etc.

• Swayam

Swayam means “Study webs of active learning for young aspiring minds”. It is launched by Govt. of India in 2017 which is designed to achieve the three cardinal principles of education policy i.e. access, equity and quality to all especially to the most disadvantaged groups.

• Swayamprabha

Swayamprabha is a digital initiative of Govt. of India which was launched in 2017. It is a group of 32 DTH channels devoted to telecast high-quality educational programmes on 24X7 bases using the GSAT-15 satellite. These 32 channels are uplinked from BISAG, Gandhinagar. The study material and content are provided by NPTEL, IITs, UGC, CEC, IGNOU and NCERT.

• Massive Open Online Courses (MOOCs)

MOOC stands for Massive Open Online Course. It was set up in 2008 and became more active in 2012 as a popular learning tool. It is a web based platform which provides unlimited number of students worldwide with a chance of distance education with the best institutes in the world.

• National Digital Library (NDL)

National Digital Library is an online library where students can get resource materials. It will help the students to access more than 80 lakh digital resources at no cost.

2. Open and Distance learning

Open and distance learning is learning that provides the opportunities that is characterized by the separation of teacher and learner in time or place or both time and place. Education that is certified by an institution, the use of a variety of media, including print and electronic, two-way communications that allow learners and tutors to interact, the possibility of occasional face-to-face meetings, and a specialized division of labor in the production and delivery of courses. In open and distance learning, teleconferencing is a useful tool for providing direct instruction and learner support, minimizing learner isolation.

3. To raise the quality of education

In the 21st century there is decisive need to improving the quality of education and training, particularly at a time of educational expansion.

ICTs can enhance the quality of education in a number of ways like by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by enhancing teacher training.

IMPORTANCE OF ICT IN ENHANCING QUALITY OF EDUCATION

Teaching and learning policymakers must first of all be clear about what educational outcomes are being targeted. These large goals should steer the choice of technology to be used and their modalities of use. The probable of each technology varies according to how it is used. Haddad and Drexler identify at least five levels of technology use in education: presentation, demonstration, drill and practice, interaction, and collaboration.

Every different ICTs—audio/video cassettes, radio and TV broadcasts, print, computers or the Internet—may be used for presentation and demonstration, the most basic of the five levels. Apart from video technologies, drill and practice may similarly be performed using the whole range of technologies. Further the networked computers and Internet are the ICTs that enable interactive and collaborative learning best; their full potential as educational tools will remain unrealized if they are used just for presentation or demonstration

BENEFITS OF ICT

▶ **Anytime, Anywhere.**

ICTs has their ability to transcend time and space. With the Internet a wealth of learning materials in almost every subject and in a variety of media can now be accessed from anywhere, anytime of the day and by an unlimited number of people

▶ **ICT improve access to remote learning resources.**

Education does no longer have to rely solely on black and white books and other materials in physical media housed in libraries for their educational needs.

▶ **Motivate to learn**

ICTs such as videos, television and multimedia computer software that combine text, sound, and colorful images ,interactive radio, likewise makes use of sound effects, songs, dramatizations, comic skits, and other performance conventions to compel the students to listen and become involved in the lessons being delivered.

▶ **Enhancing teacher training**

ICTs have also been used to improve access to and the quality of teacher training. For instance, institutions like the Cyber Teacher Training Center

(CTTC) in South Korea are enchanting benefit of the Internet to give better teacher professional development opportunities to in-service teachers. CTTC established in 1997 government-funded, offers self-regulating, self-paced Web-based courses for teachers of primary and secondary schools. Courses include “Education Reform,” “Computers in the Information Society,” and “Future Society and Education.” Online tutorials are also offered, with some courses requiring occasional personally meetings. In China, the China Central Radio and TV University, The shanghai radio and many other RTVUS has been run the large-scale radio and television-based teacher education from many years. Also in IGNOU (Indira Gandhi national Open University) satellite based one way video and two-way audio conferencing was held in 1996. It was supplemented by print materials and recorded video to train 910 school teachers from 20 districts training institutes in Karnataka state.

▶ **ICTs help to transform the learning environment into learner-centered**

Research has shown that the appropriate use of ICTs can catalyze the paradigmatic shift in both content and pedagogy that is at the heart of education reform in the 21st century. ICT-supported education to promote the acquisition of the knowledge and skills that will empower students for lifelong learning.

When ICT used appropriately, especially computers and Internet technologies— enable new ways of teaching and learning rather than simply allow teachers and students to do what they have done before in a better way. These new traditions of teaching and learning are underpinned by constructivist theories of learning and constitute a shift from a teacher-centered pedagogy—in its worst form characterized by memorization and rote learning—to one that is learner-centered.

▶ **Collaborative learning**

ICT-supported learning encourages interaction and cooperation among students, teachers, and experts regardless of where they are. On one side modeling of real-world interactions, ICT-supported learning provides learners the opportunity to work with people from different cultures, thereby helping to enhance learners’ teaming and communicative skills as well as their global awareness.

▶ **Evaluative learning**

ICT-enhanced learning is student-directed and diagnostic. Distinct static, text- or print-based educational technologies, ICT-enhanced learning recognizes that there are many different learning pathways and many different articulations of

knowledge. ICTs permit learners to discover and find out rather than merely listen and memorize.

CHALLENGES IN ITS IMPLEMENTATION

- ▶ High cost of acquiring, installing, operating, maintaining and replacing the ICT.
- ▶ Using unlicensed software can be very problematic, not only legally but in the costs of maintenance, particularly if the pirated software varies in standard formats.
- ▶ Even though students can benefit immensely from well-produced learning resources, online teaching has its own unique challenges as not all faculties are ICT literate and can teach using ICT tools.
- ▶ Many developing nations and institution faced problem about the basic requirement of proper rooms or buildings, electricity and telephone networks.
- ▶ Most of the online content is in English, so it causes problems as in many nations the people are not familiar or comfortable with English.
- ▶ Supervision and implementation of ICT projects in relevant organization set up by the government often show lack of concern in the process of supervision of ICT facilities and with this many equipment in most of the institution to lie waste.

SUGGESTIONS

- ▶ **On-the job training:** On-the job training is a path for teachers to upgrade the skills and knowledge and teachers will be train on how to adopt and use ICT facilities for effective and efficient teaching/ learning in the classroom
- ▶ **Organizing awareness programmes:** Awareness programmes such as workshop, seminars, and symposium if organized for teachers by governments and relevant authorities in the educational system will help to enhance teachers' efficiency and effectiveness.
- ▶ **Proper supervision of ICT projects/programmes:** ICT projects/programmes should be given prior attention in terms of their supervision by government, ministry of education or other stakeholder.
- ▶ **Provision of ICT facilities:** Government should provide ICT facilities such as

projectors, computers, internet connector and smart-boards to schools and institutions of learning, this will enhance teaching/learning process and on the aggregate academic performance.

- ▶ **Sufficient budgetary provision:** Adequate budgetary provision will help in building of ICT laboratories, acquisition and dispensation of ICT facilities to schools/institution of learning that are in need of them for effective and efficient teaching/learning by both the teachers/learners.

CONCLUSION

ICT played significant role in improving the standards in education, hence its inclusion in the curriculum is a step in the right direction. The implementation and use of ICTs in education have a positive impact on teaching and learning. Hasty changes in the technologies are signifying the role of ICT in future will grow extremely in the education. It will also increase the flexibility so that learners can access the education regardless of time and place in the 21st century. It would provide the prosperous atmosphere and motivation for teaching- learning process which seems to have a deep impact on the process of learning in education by offering new possibilities for learners and teachers. It supports a wide range of broader educational objectives including independent learning, collaboration with others and communication skills. Integration of ICT into education becomes fruitful and efficient only when it is preceded by proper planning and management.

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