



INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) FOR HIGHER EDUCATION IN DIGITAL AGE

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ABSTRACT:

Establishment of technologies of learning, discussion media and smart edge, Open Educational Resources MOOC and increased consciousness for new generation have been demanding traditional education system to be more exposed, flexible and modified to what students' expectation. Using ICT in education has been widely accepted as an effective way of stimulating such changes attributed to technological advances, social paradigm change and international standard. It is based on the acceptance that the possibility in ICT would bring positive effects about teaching and learning which provides flexibility, accessibility, opportunities for participation and collaboration for the teachers and students. Today, these communication systems have become an important part of everyday life with circuits spanning the entire world carrying voice, text, pictures and other information's which is less expensive and widely available, which make people be more interested in connecting them to the internet. Technology and innovation have brought incredible change in the way the students learn. In the global network, newer pathways and resources of learning available, technology acquaintance and technology implementation in highest form in their classrooms. For the students to take effective benefit of technology, the teachers have to play an important role as imparters of knowledge and also as organizers to supervise the students for using technology.

KEYWORDS:

INFORMATION, COMMUNICATION, TECHNOLOGY, RESOURCES, INNOVATION, IMPLEMENTATION.

PAPER ACCEPTED DATE:

6th March 2025

PAPER PUBLISHED DATE:

8th March 2025

INTRODUCTION

The role of Information and Communication Technology (ICT), particularly internet in the education sector plays a vital role in the progression of endowing the technology into the educational activities. Education sector can be the most effective sector to expect and eradicate the negative impact of ICT. Technology (internet) in another side can be the most effective way to rise the student's knowledge. The significant role of ICT (Internet) in our life, especially in the educational activities, education authorities should be wise enough in realizing the approaches to empower ICT in supporting the teaching and learning process in the learning environment. ICT is not just the bloom of the educational activities, but also it will be the second possibility to improve the effective and meaningful educational process.

The main purpose of the Strategy for Information and Communication Technology Operation in Education is to provide the prospects and styles of contributing information and communication technology (ICT) into the general educational activities.

ICT IN EDUCATION

The support of information and communication technologies (ICT). During the past 2 decade, the use of ICT

has basically changed in the working for education. Environment-conscious world, the importance of education and suitability of ICT as a social necessity has been increasing. Social suitability of information and communication tools is necessary to improve the mobility in the society and increase the chance for equity and social justice. Education as a qualitative development is not inadequate within the classroom structure. The modern tools of ICT such as e-Learning and online practice of learning and receiving information are much sought after by the students as well as by the institutions.

ICT IN HIGHER EDUCATION

Similarly, in the field of higher education, we need to increase the number of students. Therefore, if we make our learning more engaging with the use of ICT, it can completely change how our education system works. Also, we should examine the challenges of cost-factor and availability of trained teachers in the process of dissemination of education with the help of ICT.

India is developing as a knowledge economy and it cannot function without the support of ICT. The gap between demand and supply of higher education has necessitated the governments and institutions to formulate the policies

for the better use of ICT. And, in order to bridge the gap, it is necessary to evolve the cooperation between the public and private sectors. The education ICT policy should identify specific ways in which the application of ICT will enhance the educational capacity and the capability of higher education institutions. According to a recent study, innovations such as using Twitter to send messages are helpful in disseminating education. In a similar fashion, the use of YouTube in sharing video information will go a long way in disseminating education. During the last decade, higher education has gained importance in India's changing policy landscape as the government realizes that India's strength lies in education.

FEATURES OF ICT

ICT is a potentially influential tool for spreading educational opportunities, both formal and non-formal, to earlier underserved constituencies-scattered and rural populations, groups traditionally excepted from education due to cultural or social reasons such as cultural sections, girls and women, persons with disabilities, and the elderly, as well as all others who for reasons of cost or because of time restrictions are unable to enroll on campus.

Anytime, anywhere: One important feature of ICTs is their ability to exceed time and space. ICTs make possible asynchronous learning or learning considered by a time lag between the delivery of instruction and its response by learners. Online course materials, for example, may be accessed 24 hours a day, 7 days a week. ICT-based educational delivery (e.g., educational programming broadcast over radio or television) also dispenses with the need for all learners and the trainer to be in one physical location. Some types of ICTs, such as teleconferencing technologies, enable instruction to be received concurrently by multiple, geographically dispersed learners (i.e., synchronous learning).

Access to remote learning resources: Teachers and learners no longer have to rely exclusively on printed books and other materials in physical media housed in libraries and available in limited measures for their educational needs. With the Internet and the World Wide Web, a wealth of learning materials in almost every subject and in a diversity of media can now be retrieved from anywhere at any time of the day and by an unlimited number of individuals. This is mainly significant for many schools in emerging countries, and even some in developed countries, that have limited and outdated library resources. ICTs also enable access to resource persons, mentors, experts, researchers, professionals, business leaders and peers all over the world.

ICTs help prepare individuals for the workplace: One of the most commonly cited reasons for using ICTs in the classroom has been to better prepare the present generation of students for a workplace where ICTs, particularly computers, the Internet and related technologies, are becoming more universal. Technological literacy, or the ability to use ICTs effectively and efficiently, thus seen as representing a reasonable superiority in an

increasingly globalizing job market.

POLICY INITIATIVES FOR ICT IN HIGHER EDUCATION

The Indian policy for developing ICTs as a vehicle for encouraging education is noticeable the use of satellite in early 1970s. The long road negotiated till now has been directed to launching of enthusiastic satellite for education (EDUSAT). Now, India ranks 45 in the Network Readiness Index. The number of Internet users and penetration of PCs is in segments online educational enterprise started emerging in early 1990s. The National Task Force on Information Technology and Software Development: IT Action Plan Part III- Long Term National IT Policy (GOI, 1999) established by the then Prime Minister of India in 1998 gave stimulus to determinations for abusing hastily emerging new technologies.

Major prominence of the Policy was on expansion of IT education at school and university level including all national level institutions. Thus, numbers of programmes were developed and originated for illustration Virtual Campus Initiatives of IGNOU in government sector and NIIT Net-varsity in private sector. Diagnosing the existing sturdy educational infrastructure particularly at higher education level consisting of 18064 colleges/institutions and 378 universities, upgrade of use and assimilation of ICTs in education would enormously assistance the socio-economic development of the country.

The following ideas are implemented in higher education level:

- ❖ ICT related elective courses at the higher education level.
- ❖ Furnished institutions with EDUSAT terminals.
- ❖ To enhance the ICT infrastructure.
- ❖ To deliver digital content and resources.
- ❖ ICT enabled practices are given to the teachers.
- ❖ Occupation concerned with courses in ICT will be developed and established for students of the vocational stream at the higher education level.
- ❖ ICT for open and distance learning.
- ❖ ICT for college management.
- ❖ To inspire the public-private partnership.

ADVANTAGES OF ICT IN EDUCATION

Here are some of the advantages which ICT brings to education according to recent research findings.

GENERAL BENEFITS

- ❖ Excessive competence throughout the school and college level.
- ❖ Communication frequencies are amplified through email, discussion groups, and chat rooms
- ❖ The use of ICT across different curriculum subjects can have a beneficial motivational inspiration on students' learning.

BENEFITS FOR STUDENTS

- ❖ Higher quality lessons through greater collaboration between teachers in planning and preparing resources.
- ❖ More focused teaching, tailored to students' strengths and weaknesses, through better analysis of attainment data
- ❖ Improved pastoral care and behaviour management through better tracking of students
- ❖ Gains in understanding and analytical skills, including improvements in reading
- ❖ Comprehension.
- ❖ Development of writing skills (including spelling, grammar, punctuation, editing, and re-drafting, fluency, originality, and explanation).
- ❖ Inspiration of independent and active learning, and self-responsibility for learning.
- ❖ Flexibility of 'anytime, anywhere' access **(Jacobsen and Kremer, 2000)**
- ❖ Development of higher-level learning styles.
- ❖ Students who used educational technology in school felt more successful in school are interested to learn and have increased self-confidence and self-esteem
- ❖ Students found learning in a technology-enhanced setting more stimulating and student-centred than in a traditional classroom
- ❖ Broadband technology supports the consistent and incessant downloading of web-hosted educational multimedia resources
- ❖ Opportunities to address their work to an external audience

TEACHING AND LEARNING WITH ICT

Teachers' planning is discriminated to encounter the needs of all learners in each and every class including those students who may need extra support, those who are in line with average expectations and those working above average expectations for students of their age. A wide range of styles are active to confirm all students are sufficiently challenged:

- ❖ Students may be work individually, in pairs or in small groups according to the nature or activity of the task.
- ❖ Different pace of working
- ❖ Different groupings of students - groupings may be based on ability either same capability or mixed ability.
- ❖ Different levels of input and support
- ❖ Different outcomes expected

ICT capability is about having the technical and cognitive expertise to access appropriately, to use, develop, create and communicate information using technological tools.

Learners establish the capability by purposefully applying technology to solve problems, analyze and exchange information, develop ideas, create models and control devices. They are discriminating in their use of information and ICT tools and systematic in reviewing and evaluating the influence of ICT can make to their work as it improvements. ICT has a broader too set of technical competences in software applications although, clearly, these are important. ICT capability involves the appropriate collection, use and evaluation of ICT. Students need to know what aspects of ICT are accessible to them, when to use it and why it is suitable for the task.

INTERGRATION OF ICT IN EDUCATION

Integration of ICT in education does not broadly speak about the concentration of the teachers in 21st century education with ICT in digital age. Training of teachers is serious to the process and achievement of the ICT in education programs in India. Higher Education across of the country have implied the importance of professional development for a assorted country like India, have taken various initiatives to provide a group of professional development programs for students and tutors. Experiences of hopeful integration of ICT in education in schools and implementing professional development programs for teachers, it has been experimental, that student acceptance of ICT improvement is way gaining of the technological organization provided in schools followed by the professional development accomplishes and chances for teachers leaving them with a distinct drawback to direct the students for optimum technology usage in learning.

ICT AND RAISING STANDARDS

- ❖ Recent research also points to ICT as a significant contributory factor in the raising of standards of achievement in colleges.
- ❖ Socio-economic environments and previous performance of pupils were not found to be critical.
- ❖ A range of research indicates the potential of ICT to support enhancements in features of literacy, numeracy, and science.
- ❖ Improved writing skills: grammar, presentation, spelling, word recognition and volume of work.
- ❖ Age-gains in mental calculations and enhanced number skills, for example, the use of decimals.

ICT AND QUALITY IN EDUCATION

ICTs can enhance the quality of education in several ways such as increasing learner motivation and engagement by facilitating the attainment of basic skills and enhancing teacher training. ICTs are also transformational tools which, when used properly, can promote the shift to a learner-centred situation.

Motivating to learn: ICTs such as videos, television and multimedia computer software that combine text, sound and colorful, moving images can be used to provide

challenging and authentic content that will engage the student in the learning process. Collaborative radio likewise makes use of sound effects, songs, dramatizations, comic skits, and other performance resolutions to require the students to listen and become involved in the lessons being delivered. More so than any other type of ICT, networked computers with Internet connectivity can increase learner motivation as it combines the media fertility and interactivity of other ICTs with the opportunity to connect with real people and to contribute in real world events.

Facilitating the acquisition of basic skills: The program of basic skills and concepts that are the basis of higher order thinking skills and creativity can be facilitated by ICTs through drill and practice. Educational television programs such as “**Sesame Street**” use recurrence and reinforcement to teach the alphabet, numbers, colours, shapes and other basic concepts. Most of the early uses of computers were for computer-based learning called as computer-assisted instruction that focused on mastery of skills and content through repetition and reinforcement.

Enhancing teacher training: ICTs have also been used to improve access to and the quality of teacher training. For example, At Indira Gandhi National Open University, satellite-based one-way video- and two-way audio conferencing was held in 1996, supplemented by print materials and recorded video, to train 910 primary school teachers and facilitators from 20 district training institutes in Karnataka State. The teachers interacted with remote lecturers by telephone and fax.

Fast Communication: The Internet stimulates fast communication across geographical barriers. Students can join concerted projects that involve students from different states, countries or continents. This type of learning experience was not possible before the Internet. This is a unique learning experience very important for each of our students, as the world is charming the public.

DISADVANTAGES OF USING ICT FOR EDUCATION

The use of the Internet for education is not without problems. Therefore, one should expect the problems to be encountered in using the Internet in teaching to be evolving as well. There is some disadvantage of using ICT for teaching and learning:

Plagiarism: Apart from Web sites that claim to help students write term papers, there are numerous cases of students downloading information from the Net and turning them in for grades. We can minimize this problem by requiring students to cite research sources. There is an online service, Plagiarism.org at <http://www.plagiarism.org/>, which can assist us in minimizing cases of plagiarism in the class. This service claims to prevent plagiarism by determining if a term paper has been copied from the Internet or not.

Student Privacy: Criminals, marketers, and other persons can easily get information from students when they are online. These could post the danger to students' lives or

may even lead to litigation against the school. To avoid this problem, students should be educated on the dangers of giving information to people online. Parents and teachers need to supervise students' online activities.

Low-Income Groups: According to the US Department of Education, over 50% of public schools with a high minority enrolment had a lower rate of Internet access than public schools with a low minority enrolment in 1997. The same was true of instructional rooms in those schools. In addition, students from low-income families may not have computers at home or may have computers at home with no access to the Internet. Consequently, students in low-income communities may be disadvantaged. To reduce the effect that social or economic status may have, we should give Internet assignments that students can easily complete while in school. If necessary, schools may need to keep computer labs open for longer and/or odd hours. The use of computers at public libraries should also be encouraged.

Preparation Time: It takes a lot of preparation time to effectively use the Net for education. In addition to designing Internet-based lesson plans, we may have to surf the Internet to download lesson plans and adapt them to support the curriculum objectives or visit sites to select those appropriate for classes. We have no choice but prepare in order to help your students become a responsible user of the Internet.

New Administrative Responsibilities: Teaching using the Internet brings to bear a new set of administrative demands on the teacher and the school administration. These include development and implementation of acceptable use policy, training, developing new evaluation criteria as needed, and addressing parents'.

CONCLUSION

Effective use of features and opportunities of ICT supports instructors' empowering of the educational process with active learning, creativity, problem-solving, cooperation and multifaceted interactions for improving their academic performance, inquiry and alternative thinking skills. The learning communities of the nation would oversight the rich potentials of the ICT revolution which is reshaping the lifestyle.

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