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ICT ENHANCES THE QUALITY IN HIGHER EDUCATION

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Abstract

Globalization and technological change accelerated 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 serious implications for the nature and purpose of educational institutions. Information and Communication Technology (ICT) is a vehicle to enhance the quality of the education. As the world is moving rapidly into digital media and information, the role of ICT in education is becoming more important in the 21st century. ICT, which includes radio and television, as well as newer digital technologies such as computers and the Internet have been touted as potentially powerful enabling tools for educational change and reformation. ICT helps to share availability of best practices and best course material in education. When used appropriately, different ICTs are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by, among others, helping make teaching and learning into an engaging, active process connected to real life.
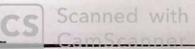
Keywords: ICT, Higher Education, e-Learning, quality of education, Blended Learning, Distance Learning.

1. Introduction

If we want to keep up with the pace of present time, while everything is decided by market force, education has been transformed into commodity after GATS agreement, private educational enterprises are proliferating by leaps and bounds, modes of production and delivery of educational services are going to be completely changed. Globalization has created demand for educational courses

and material of foreign origin from school to higher level: we have to create a mechanism which must be the combination of our indigenous tradition with modern technological advancement. The concept of Darwin's "survival of the fittest" is also applied in education. If all components of education adapt changes judiciously which are concerned with mode of teaching and learning, transformation of knowledge, involvement of technology, production of educational goods, delivery of educational services etc., is more likely to face challenges which are created by globalised market force. So useful and judiciously selected adaptations are necessary to survive. The time had gone when we have to post a letter and wait for a long time to get information. As Internet came into existence, distance world has been vanished and unbelievably everything is present before us within a moment supposing internet is Genie. As we open our computer desk Aladdin's lamp with one click, Genie i.e., internet comes out and fulfill your requirements as you wish. It is the internet, an important component of ICT, which is the key to give birth E-Governance. Internet not only connects all human minds but also provides a platform to exchange their ideas, educational goods with services speedily. Actually internet has revolutionized the world. Educational sector has been deeply intervened by ICT. The concept of classroom, mode of teaching methods, format of texts, patterns of examination etc. are changed due to intervention of ICT. We are living in the technologically advanced age. And while everyone is making hue and cry on quality degradation, ICT as a tool can help to maintain the strength of all quality indicators.

2. Indicators on the Quality of College Education

There is no any such type of indicators which could decide the quality of college education, but there are two statutory body, i.e. NAAC and NCTE which are involved in quality check of institution. National Assessment and Accreditation Council [NAAC], an autonomous body was established to evaluate the quality of higher education in India. On the basis of quality, NAAC provided grades to higher educational institutions. Assessment is done on the basis of seven criteria:

i. Curricular Aspects
ii. Teaching-Learning and Evaluation

iii. Research, Consultancy and extension
iv. Infrastructure and learning resources
v. Student support and progression
vi. Governance and Leadership
vii. Innovative Practices

3. ICT and Quality

ICT is an umbrella term that includes any communication device or application, encompassing all types of media i.e. radio, television, cellular phones, computer, internet, satellite systems etc., as well as the various services and applications associated with them, such as videoconferencing and distance learning.

The core of educational function is the communication. So ICT enables mass media plays as an effective tool of communication and this communication further plays as powerful means to deliver vast number of educational activities in many ways. Equal availability of educational opportunities to all children is possible only through the constructive use of the new communication media in higher education. It increases the scope of education from classroom mode to the distance mode. According to NCERT, only 18 states have appropriate number of teachers as per norms of RTE act. It means shortage of teachers resulted or ended in quality degradation. So the shortage problem can be solved by the ICT enabled mass media.

A centralized class can be organized and with the help of satellite, this class can be attached with all classes across the country. ICT can play an important role to solve problem related with book distribution or availability. We can create a soft copy of books and either it can be distributed or sent through internet and make availability sure on every child's desktop. We know that library plays a pivotal role during career formation. But presence of good library has been a distant dream for uncertain areas. Here also ICT can play one's own part. Digitalization and connecting all libraries through single web portal can bring a paradigm shift.

5.2.3. Online Collaborative Learning involves interaction between learners and faculty members through the web; this interaction can occur in one of the following modes:

- Synchronous interaction.
- Asynchronous interaction.

Synchronous, means 'at the same time', it involves interacting with a faculty member and other learners via the web in real time using technologies such as virtual classrooms and/or chat rooms. On the other hand, Asynchronous means 'not at the same time'; it enables learners to interact with their colleagues and faculty member at their own convenience, such as interacting through email.

5.3. Distance Learning

It is a type of education, where students work on their own at home or at the office and communicate with faculty and other students via e-mail, electronic forums, videoconferencing, chat rooms, instant messaging and other forms of computer-based communication. It is also known as open learning. Most distance learning programs include a computer based training (CBT) system and communications tools to produce a vital classroom. Because the Internet and World Wide Web are accessible from virtually all computer platforms, they serve as the foundation for many distance learning systems.

ICTs also allow for the creation of digital resources like digital libraries where the students, teachers and professionals can access research material and course material from any place at any time. Such facilities allow the networking of academics and researchers and hence sharing of scholarly material and leads to quality enhancement in teaching and learning.

5.4. ICT in Higher Education

The ICT Policy in higher education aims at preparing youth to participate creatively in the establishment, sustenance and growth of a knowledge society leading to all round socio-economic development of the nation and global competitiveness. The introduction of ICT in the higher education has profound implications as given below for the whole education process ranging from investment to the use of technologies in dealing with key issues of access, equity, management, efficiency, pedagogy and quality.

5.4.1. Student-centered Learning: ICT provides a technology that has the capacity to promote and encourage the transformation of education from a teacher directed enterprise towards student-centered models. As more and more students use computers as information sources and cognitive tools, the influence of the technology will increase to support their studies.

5.4.2. Supporting Knowledge Construction: Learning approaches using contemporary ICTs provide many opportunities for constructivist learning and support for resource-based, student centered settings by enabling learning to be related to context and to practice.

5.4.3. Anyplace Learning: With the help of ICT, educational institutions can offer programs at a distance mode. Today many students can use this facility through technology-facilitated learning settings.

5.4.4. Anytime Learning: Technology-facilitated educational programs remove the geographical barriers. Students are able to undertake education anywhere, anytime and at any place. This flexibility has provided learning opportunities for many more learners who previously were constrained by other commitments.

5.4.5. Information Literacy: The growing use of ICT as tools of every day life have seen the pool of generic skills expanded in recent years to include information literacy. It is highly probable that due to the future developments and growth in technology, it will help further for information literacy.

6. Significance of ICTs in the quality of Higher education

ICTs can enhance the quality of education in several ways; by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by enhancing teacher training. ICTs are also transformational tools which can promote the learner-centered environment.

Motivating to learn: Interactive radio likewise makes use of sound effects, songs, dramatizations, comics, skits, and other performance conventions to compel the student to listen and become involved in the lessons being delivered. But 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 automatically with interest.

We know that ICT makes education more learner-controlled, individualized and flexible. So students are getting enough time for brainstorming. They get the answers of their questions by the ICT oriented mechanism. Today's world is based on knowledge – driven economy which is run by ICT enabled workers. All components of ICT make the class room more favorable as well as more effective. Delivery of lessons could be more easy and effective for teacher.

4. Why do we need ICT in Education?
ICT implementation in education fulfills the followings aims and objectives
1. To implement the principle of life-long learning / education.
2. To increase a variety of educational services and medium / method.
3. To encourage the same opportunities to obtain education and information.
4. To develop a system of collecting and disseminating educational information.
5. To promote technology, literacy of all citizens, especially for students.
6. To expand distance education with national contents.
7. To promote the culture of learning (development of learning skills, expansion of optional education, open source of education, etc.)

5. ICT Enabled Education
In view of ICT, education can be classified into three main categories:
* E-learning
* Blended Learning, and
* Distance Learning

5.1. E-Learning
E-Learning or Electronic learning is a general term used to refer to computer-enhanced learning. It is commonly associated with the field of advanced learning technology (ALT), which deals with both the technologies and associated methodologies in learning using network and/or multimedia technologies. It is also known as online learning. E-learning can be 'on demand'. It overcomes timing, attendance and travel difficulties. E-learning allows delivery, dialogue and feedback over the internet. It allows mass customization in terms of content and exams.

E-learning allows higher participation and greater interaction. The web and the internet is the core ICTs to spread education through e-learning. The components include e-portfolios, cyber infrastructures, digital libraries and online learning object repositories. All the above components create a digital identity of the student and connect all the stakeholders in the education.

E-learning has the advantages of eliminating time and geographical barriers in education for learners as well as teachers. It enhanced group collaboration made possible via ICT. New educational approaches can be used. It can provide speedy dissemination of education to target disadvantaged groups. It offers the combination of education while balancing family and work life. It enhances the international dimension of educational services.

5.2. Blended Learning
Blended Learning is the combination of multiple approaches to learning. It is usually used to define a situation where different delivery methods are combined together to deliver a particular course. These methods may include a mixture of face-to-face learning, self-paced learning and online classrooms.

5.2.1. Face to face Learning refers to learning that occurs in a traditional classroom setting where a faculty member delivers instruction to a group of learners. This could include lectures, workshops, presentation, tutoring, conference and much more.

5.2.2. Self paced Learning provides the flexibility to learn according to the availability of learners' own time and pace, it occurs in a variety of ways such as reading specific chapters from text book, studying course material presented through web-based or CD based course, attending pre-recorded classes or sessions, reading articles referred by faculty member, working on assignments & projects, and searching & browsing the internet.

Facilitating the acquisition of basic skills: The transmission of basic skills and concepts that are the foundation of higher order thinking skills and creativity can be facilitated by ICTs through drill and practice. Educational television programs use repetition and reinforcement to teach the alphabet, numbers, colors, shapes and other basic concepts. Lessons can be learnt based on their intellectual capacity.

Enhancing teacher training: The teachers interacted with remote lecturers by telephone and fax. ICTs have been used to improve access to and the quality of teacher training using different and varied eminent educationist's views.

7. ICT in Online Education: Best Apps, Tools and Online Services

Distance learning solutions and online educational tools are rapidly growing in popularity and effectiveness with teachers, colleges and university-level programs worldwide. One recent survey estimated that at least one in five undergraduates has participated in at least one "distance education" course as part of their studies, and many middle, high and even elementary school teachers have begun using some form of distance learning in the classroom. One can get millions of information from a single click and out of that millions of information we have to choose best, durable and comfortable at every aspect. Here some of the education tools along with their website are given Table 1 which can handy for the teachers as well as learners.

Table 1: Tools Available on Internet

S. No.	Tools	Website
1.	Academic Earth	academicearth.org
2.	Adobe Connect	adobe.com
3.	BetterExplained	betterexplained.com
4.	Big Think	bigthink.com
5.	Blackboard	anz.blackboard.com
6.	Bright Storm	brightstorm.com
7.	Canvas	instructure.com
8.	Cosmo Learning	cosmolearning.com
9.	Coursera	courser.org
10.	Clever	clever.com
11.	EdX	edx.org
12.	Futures Channel	thefutureschannel.com
13.	Internet Archive	archive.com
14.	iTunes U	apple iTunes – apple iTunes software
15.	Learner	learner.com
16.	Face Time	apple.com
17.	Google Plus Hangouts	plus.google.com
18.	YouTube	youtube.com
19.	Prezi	prezi.com
20.	Udacity	in.udacity.com

8. Promotion of IT Tools for Quality Enhancement

ICT Tools have become imperative in the context of modern education. The traditional use of 'chalk and talk' method has grown outdated. The visual aspect of learning has the potential to impress the learners. Since there is knowledge and information explosion, it can be brought to the portals of the college by exploiting the ICT Tools mentioned.

9. Examples for the use of ICT Tools

The use of ICT Tools has revolutionized the quality education at the college. The management has provided the smart boards and pen interactive boards in addition to the College Network with adequate number of computers in

the Departments, Computer Centers, and the different sections in the College Union. Teaching and Learning through the ICT Tools have greater impact and retention on the students. The possibility of storage of the lessons provides easy access to them for the learners. They also serve as source materials for examinations and research. The final year UG and PG Students and the research scholars of M.Phil. and Ph.D. Programmes exploit the ICT Tools for the visual and oral presentation of their research projects.

10. Conclusion

The only way to sustain a better future is by educating the younger generation with effective and efficient education methodologies. It is optimistic to expose students to the latest technology, so that they are not left inexperienced while they reach the stage at which they will contribute to society. This paper shows the positive effects of the interventions of ICT in higher education system. The adoption and use of ICTs in education have a positive impact on teaching, learning, and research. Similarly wider availability of best practices and best course material in education, which can be shared by means of ICT, and promote better teaching and improved academic achievement of students. Use of ICT in education enriches the e-learning in a dynamic way. It is said that people are visual minded. They retain 20% of what they hear. 50% of what they hear and see. And probably, 100% of what they hear and see and do. So use of ICT is growing rapidly in educational sector but can never deny from our responsibility. Thus maintaining quality is the sole responsibility of all human beings which are stakeholders of education system.

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