

## Renewing Use of ICT in Indian Higher Education

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### **ABSTRACT:**

*Ours is an age of globalization, liberalization, Privatization, Urbanization and Commercialization. In such an age, we have witnessed widespread changes throughout the world. We can see the vital change in the day to day life of mankind also in the education system of the nation. The world has become a small village and in such circumstances, the use of ICT is very important. There is a widespread change in the system of educational institutions and use of ICT in education is one step towards modernization and globalization in education.*

*The full form of ICT is Information and Communication Technology which includes radio and television and other digital technologies like computer and internet. Wider availability of best practices and best course material in education, which can be shared by means of ICT can foster better teaching. It also allows the academic institutions to reach disadvantaged groups and new international educational markets. Thus, ICT enabled education leads to the democratization of education. In developing countries like India, effective use of ICT for the purpose of education has the potential to bridge the digital divide.*

*The UGC's efforts of funding the colleges and universities to improve the ICT infrastructure has not yielded a good result, particularly in ICT based administration. The computers have replaced typewriters, but still the procedures are the same decades old. The UGC, MHRD, and NIC will have to select some states and central universities to implement an ICT based administration model that run with paperless, signature less and digital accountability system.*

### **Introduction:**

When we cannot increase the physical infrastructure like classrooms and laboratories in the rapidly growing population, we have to adopt modern technologies in educational institutions properly, so that the physical infrastructure can be used in the maximum way to handle all the students. Despite the differences in curriculum and fee structure, the foreign institutions and universities will exhibit their quality by reaching larger groups with effective use of ICT in the teaching learning and evaluation process.

The NME ICT is one of the best project initiated by the government to enhance the use of ICT. One of the objectives of it is to enable teachers to develop e - content. E - content development requires diverse knowledge and skill in instrumental designing, educational psychology, content writing, graphics, designing, audio and visual production, web designing etc. The MHRD and UGC also may initiate steps to implement

educational technologies like instructional designers, multimedia developer and web managers.

ICT in education develops higher order skills such as collaborating across time and place and solves complex problems of real world. It improves the understanding and perceptions of the world of the students. Thus, ICT can be used to prepare the workforce for the information society and the new global economy.

ICT can be used as an educational tool in various ways. It can be used as an informative tool which provides vast amount of data in various formats such as audio, video and documents. It can be used as a situating tool through which we can create situations which the students experiences in their day to day life and through which they can learn. It can be used as constructive tool which manipulates the data and generate analysis. It can be used as communicative tool which can be used to remove communication barriers such as that of space and time.

The following three areas of higher education urgently require utmost need of ICT infrastructure:

1. Teaching, Learning and Evaluation
2. Examination
3. Administration

In higher education, the ICT can improve performance of the students, teaching methods and resources, administration process and develop relevant skill in the disadvantaged communities. It can also improve the quality of education by facilitating learning by doing, real time conversation, directed instruction, self – learning, problem solving, information seeking and analysis and enhance critical thinking along with the ability to communicate, collaborate and learn.

Computers and internet technologies are excellent ways of teaching and learning methods. India is making use of excellent combination of ICT resources like open source software, local language interfaces, satellite technology, digital libraries etc. with a long term plan to reach the remote areas of the country. There are various resources of internet available on Internet. Students can enhance their quality in education by using the following various resources of internet.

### **Audio – Visual Information:**

Audio – Visual information is a digital form of information. The biggest exposure on the internet is in form of pictures, words , audio and audio visual content that students get exposed to by consuming content on video sites, social networking sites, blogging sites etc. The digital form of information on the internet has made it possible to process and distribute not only the texts but also various images, audios and video recordings. Modern children learn more through visual images than the older generation as the modern world is richer in visual stimuli.

The development of multimedia and information technologies, as well as the use of internet as a new technique of teaching has made radical changes in the traditional

process of teaching. Development in information technology has generated more choices for today's education.

### **Virtual Libraries/Electronic Libraries:**

Virtual libraries have also become an important source of information to both the students and the teachers. The articles in libraries such as Wikipedia have become an official research tool. It can be compared with the information in other resources and this makes it more detailed and reliable. For this reason, the majority of subjects in Wikipedia are written by accessing official and private libraries, although the reliability of the article can only be judged, if the references have been well documented.

### **Blogs :**

Many students are able to access the necessary information by using search engines for project assignments. The majority of subjects that are listed in search engines are written blogs and forums. The information provided in these links is often all that can be found and so is accepted by the readers. These open access resources are often personal studies of people who are interested the subject, no matter whether they are academicians or not, and therefore should be confirmed with other sources on the same subject written by people who are well qualified.

### **E-mail Communication:**

E-mail communication is also an important source of information. It is more useful to the shy students who can thus communicate without having to speak up in the class. E-mail communication is widely applied in the educational process. Email makes it possible for students to stay in touch with their peers and with the teaching staff where a loaded schedule may make this otherwise difficult. The figure of the lonely scholar, who can become isolated through increasing specialization or for more prosaic reasons of inadequate social or language skills, is one to whom email presents some interesting possibilities. With email students can have contact with other students around the world studying the same things they are.

### **The World Wide Web :**

The World Wide Web technologies are very helpful and beneficial for group learning and teaching. It is also a virtual library at one's fingertips. WWW was formed as an environment designed for collaborative work on the documents by collectives of researchers territorially remote from each other. The further development of internet technologies has given an opportunity for joint use and edition of textual materials, schedules, audio and video – sequences.

The WWW provides teachers and students with the possibility to listen to radio programmes, television programmes, news etc. thus to listen to native speakers online. Besides, the internet gives students access to libraries and a lot of reading material and also the opportunity to familiarize themselves with many different cultures and people. They can access newspapers, encyclopedias, history sites, film guides, lyrics and broadcasting associations.

An online lecture or presentation of teaching material published on Net becomes accessible to many learners. Thousands of learners can use the same site at the same moment and enhance their knowledge and information. The WWW technologies have also allowed everyone to publish materials on the Net. In the last case, other learners can be the source of information for the learner. In education, the WWW provides big opportunities for the rapid response of the teacher to the needs of the learners like questions, queries, consultancy during the teaching course without interfering with other participants in the project. The WWW also contributes to the development of the collective work abilities like brain storm activities, case studies etc. mutual assistance and effective exchange of ideas helps the students to present the possible set of research alternatives and after the collective discussion to realize the best of them.

### **Distance Education:**

Distance education is very popular now a days. It is the most renowned and more useful in higher education than in the secondary education. The demand for distance education is strongly increasing day by day. Certain social, economical and cultural reasons are responsible for it. It is helpful to those students who are geographically distant. During the last two decades, the relevant literature shows that various authors and researchers use inconsistent definitions of distance learning and education.

The infrastructure of distance education is based on web – based training. Internet is a boon for those students who would like to learn but cannot attend schools, colleges or universities of their regions. Distance education is helpful to the people in different countries. It makes them able to get education in famous colleges and universities. Disabled children can learn at schools and colleges by distance education. Those who study at schools, colleges and universities can enhance their knowledge by referring various educational resources like encyclopedias, reference material, dictionaries, databases which are freely accessed in distance educational courses. Scholar students can communicate with international students and gain others' experiences and knowledge, participate in chat rooms, share ideas and solutions and learn more about diverse cultures.

Teachers also get the chance to be able to teach at more than one place simultaneously. They may be in a small village but through distance education and internet, they can be linked to students in more populated areas.

### **E- Learning :**

E-learning is considered among the best methods of education. It focuses on the needs of individual learners. One of the most powerful benefits of the internet in higher education is its role in e-learning. E-learning uses course material that exists entirely on a computer or in the internet. Some scholars offer courses that are entirely e-learning based, meaning all texts, assignments, quizzes and tests are accessible online and no face to face meetings are required between the learners and the instructor. E-learning allows students with limited mobility or inflexible schedules to take courses and study at times that are convenient for them. E-learning also allows students to learn at different rates; one student could go through a certain course and finish it in half the time of another student.

E-learning has come to be more and more important in higher education and expansion of a range of e-learning tools has been initiating several changes in higher education. E-learning has its ability to focus on the needs of individual learners. Every student has the luxury of choosing the place and time that suits him. E-learning provides the learners and the institution much flexibility of time and place of delivery of information. It enhances the efficiency of knowledge and qualifications of the students. E-learning motivates students to interact with others to exchange their ideas from different point of views. E-learning eases communication and also improves the relationship that sustain learning.

Community service centers have been started to encourage e – learning throughout India. There is no need for the learners to travel. It takes into consideration the individual learners differences. Some learners prefer to concentrate on certain parts of the course, while others are prepared to review the entire course. The use of e-learning allows self – pacing. It permits each and every student to study at his or her own pace and speed whether quick or slow. Thus, it increases the satisfaction level of the students and decreases the stress. The very important characteristic of e-learning is that it centers on the students or learners.

Web 2.0 brings new opportunities for e-learning by associating with web applications that facilitate participatory information sharing, interoperability and user – centered design and collaboration on the World Wide Web. The Web 2.0 allows students to interact and collaborate with each other in a social media dialogue as creators of user – generated content in a virtual community. Some of the leading examples of Web 2.0 include social networking sites, blogs , wikis, video sharing sites, hosted services, web applications etc.

ICT is also used in examination. Examination is an important educational process practiced to ascertain the knowledge acquired by learners. In most of the higher educational institutions, both internal and external – preliminary and university examinations are conducted. The ICT based evaluation in both the examinations will definitely improve the quality of evaluation and will also reduce the unwanted burden.

Generally, the examination process takes five or six months to complete the whole examination process. The students have to wait for more than a month after giving the examination. During which they are not sure whether they will pass and go for the upward course or not. But if ICT is used in various examination processes like question paper setting, declaring and publishing results, online examination, etc. it will lessen the time period and the institution can declare the result as early as possible.

Evaluation shall be conducted by online testing consisting of objective type answering only. Multimedia based objective questions will be prepared for the evaluation. We can use OMR (Optical Mark Recognition) sheets where computer based online testing is not possible.

Applying the ICT effectively shall rapidly improve our efficiencies to provide better educational services during our competition with foreign universities across and beyond our country. The chief goal of introducing ICT in education is to reduce cost per student, to make education more affordable and accessible, to increase enrollments in educational institutions, to improve quality education and to meet the needs of local employers. For that there is an urgent need to change the curriculum which can be developed by integrating ICT in education.

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