

# Use of ICT in Teaching and Learning

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## ABSTRACT

Today's age is known as age of technology and internet. Information and communication technologies have revolutionized all fields of our lives and education is not an exception. With the advent of science and technology, computer and its related technologies plays important role in the teaching and learning process. Various technologies have been used to improve the access and quality of teaching and learning. ICT have made our teaching and learning process more interesting and effective. Today we can not imagine our education system without the use of ICT. There are both positive and negative aspects of using ICT tools in education. Growth and development of any country depends upon both education and research. There are different websites, computer applications and software related to teaching and learning. This present research work is an attempt to explore the use of information and communication technology in the field

of education and its positive and negative impacts on the stakeholders of education.

*KEYWORDS: Information and Communication Technology, Teaching, Learning, Computer, Internet, Education.*

## INTRODUCTION

ICT stands for Information and Communication Technology. ICT has its impact on each and every aspect of human life and therefore education is no exception. Information and Communication Technology are diverse set of tools, resources or methods which can be used in any field. Nowadays, computers and its related technologies have dramatically changed the teaching and learning process in academics. Information technology and computer science applications are used widely all across the globe. They have completely changed our lives and also almost all areas of life. Use of ICT or Computer for education and research started some fifty years ago but now everywhere and in

every field they are used. Education is the back bone of any country. No development is possible without the development of quality of education. Now a days after Covid-19 period use of ICT in education specially in the teaching and learning is increased. One of the reason for large scale use of ICT tools in educational field is because of development, discovery, innovation and invention of information and communication technology. Modern ICT based teaching tools made the learning process among the students very easy, interesting and entertaining. Many complex topics of various subjects can be made easy to understand for students with the help of ICT tools. ICT based teaching tools are used to support and enhance learning through and based on both computer and communication technology. ICT made access of all kinds of information very easy. All the information are available to everyone in their hand. Just one click and anyone can access abundant of information on the internet. It has created so many issues related to educational system. One of the main question can be asked that Is AI going to replace actual teachers? ICT tools specially computers or laptops can be used for teaching any subjects only software, hardware and internet and electricity connection is needed. The growing use of ICT has changed strategies employed by both

teachers and students in teaching learning process.

ICT refers to all communication technologies, including the internet, wireless networks, mobile phones, computers, software, social networking and other media applications and services. ICT has been successful in providing services at low cost to the students' doorsteps. Earlier researchers and academicians were not aware about the use and importance of technologies in the field of education and research. Use of various information technologies in education resulted in various positive changes like accessibility, speed and accuracy are two of them. Educators and academicians uses ICT in education for its ability to ease the knowledge gathering and delivering process and to enhance human resource development. Using the various technologies reduced the potential for human error and increased the speed of the teaching and learning process. ICT is an important tool in teaching that speed up learning process and hence more students can learn from single educator at the same time in their different places conveniently. It helped in increasing the access of education for large numbers of learners. ICT tools help us in from beginning till end of the teaching, learning and examination.

ICT tools enables educators to get extensive information from internet and

out of those information s/he can decide what to teach and how to teach. So many old books and others records are available on different websites which are easily accessible to everyone. ICT tools are used for searching, storing and retrieving the information over the internet. Using ICT tools for lecture preparation saves time, money and effort of teachers as compared to using physical libraries. Storing various kinds of teaching notes, study material and information over the internet in a web server requires less space as compared to physical space. Teachers can search and retrieve any data or information related to research in just one click. Computers can perform very big and complicated calculation of data collection and data analysis in teaching in just a fraction of second with very very least probability of error. Technology has made the chances of error in examination and evaluation very low. It has made teaching and learning process less time consuming. ICT tools made education and learning very easy and inexpensive. It requires only hardware, software and some skills for using modern technology for teaching and evaluating purposes.

Teachers are an important stakeholder in education system. Better educational environment depends upon better quality of teachers. To teach in better way a teacher needs to be updated with modern teaching technologies. A teacher can

increase his knowledge about any subject by referring e-journals, e-library, e-magazines, e-books, e-newspapers through the use of ICT. A teacher can also participate in discussions, meetings, conferences, seminars with experts of his subjects to improve his/her knowledge and skills through audio and video conferencing. If needed teachers can easily change and edit any information on their computer which is very difficult and time consuming in case of pen and paper format. Teachers and students both can use word document application and software for writing important points and topics regarding their respective subjects and they can also use spreadsheet and calculator when the teaching and learning requires data in numeric form and its calculation. Fees for various regular courses and online certificate courses are now a days paid to the authorities through online banking or UPI. Educators from anywhere in the world can present their lectures in online mode of presentation by using presentation application and internet connection. Various online seminars, conferences and workshops, refreshers and orientation programs are organized for teachers and learners by using internet technologies. All the participants who had registered for any particular course gets their score cards and certificates within a week directly online to their email inbox or drive. In this way all educational work in any institute from teaching to admin

staff uses of various ICT technologies in some way or other.

Earlier it was a commonly held belief that learning is dependent on teacher and classrooms but now with the advent of technologies in education system the whole scenario is changed. Now person can learn anything anywhere anytime and at any speed without a teacher and classroom if s/he has information and communication technologies. In modern time teaching and learning has become very effective by using various technologies, software and application like internet, email, Microsoft word, Microsoft excel, Microsoft power point presentation, audio & video conferencing, online exams, online document management system like google drive, MS drive, dropbox, evernote. Education is most important for country's socio economic and political development therefore in the NIRF thirty percentage weightage is given to teaching and learning process. Evaluation is a important part of education system. ICT tools helps in making evaluation faster, errorless, impartial and objective. For the governance of educational institutions now ICT is must.

Technological advancement also pose some threats to education in modern times because all information are available online on the internet any one can access it anytime and anyone can write anything which is not factual and real. Digital

divide is very high in our country. Significant amount of our country's population live in below poverty line. So many remote villages don't have regular electricity. Good internet connectivity is also not available in remote places. Most of the teachers are trained in old chalk and duster way therefore all teachers can not use teaching technologies effectively. So many students who are economically backward can not afford costly gadgets and students find it difficult to use ICT for learning. Digital literacy is low specially in rural areas. Paying continuous focus and attention while learnig something online platform is not easy for easy because various kinds of distractions are there for disturbing students. Costly hardware and software are required for creating a digital classroom. Additional infrastructure is also required for ICT. Significant amount of capital should be spent on training of both teachers and students so that they can easily use ICT tools for effective teaching and learning.

Online teaching methods are learner centric. In this type of method verbal instruction are less and multimedia are used extensively. There are so many positive effects of using ICT in teaching and learning. During the Covid-19 pandemic period despite the lockdown students continue their studies through online mode of teaching and learning. Physical classes have some limitations but

large number of students can register and learn various new things at the same time without any physical barrier. Various universities and colleges started various online courses during lockdown period. Computer assisted learning is one of the learner centered teaching method in which computer is used to mediate the flow of information in learning process. The method of open learning is also gaining popularity because it offers great flexibility to the learners. In open learning system regular class attendance is not necessary, there are no or minimal restriction on admissions and the learner has open access to learning resources. ICT is also helpful for special children who has special needs according to their convenience.

ICT based teaching support is an approach to facilitate and enhance learning by or through using computer and communication technology. It refers to the use of computer- based electronic technologies of internet, e-mail, websites and various application to deliver, facilitate and enhance learning. ICT also support distance and open learning. MOOCs have provided opportunities for various types of learners to upgrade their knowledge and skills. SWAYAM is an Indian IT MOOCs platform for providing best quality education that can be accessed by anyone, anytime and anywhere using the IT system. SWAYAM PRABHA is a

group of 32 DTH channels devoted to telecasting of high-quality educational programs on twenty-four into seven basis using the GSAT-15 satellite. Teachers can also become professional expert in using modern technologies for teaching and learning process through training on usage of ICT in education. By using internet technologies teaching faculties can also interact with their peer groups in the world and exchange ideas and notes on the subject.

## **CONCLUSION**

This present paper was an attempt to explore, discuss and elaborate the various uses of ICT in making teaching and learning effective. Today's age is known as age of technology and internet and ICT plays an important role in this technological age. ICT plays very important role in almost all areas of human beings life and education is not an exception and it has improved the quality of teaching, learning and research. Technology has made teaching and learning very flexible and joyful activity. Familiarity with teaching related software and applications are must for teaching in modern times. Because of covid-19 pandemic use of ICT is increased so much for teaching, learning and research. Fast, cost effective, secure, time saving, accurate, impartial, fair etc. are some of the benefits of using modern technologies in educational field especially in teaching

and learning. ICT is a systematically planned effort for providing interactive and experiential learning. It offers flexibility in terms of place, time and pace of learning. Learners can get best high quality study materials and resource persons at their doorsteps and they can also get personalized training. Participation in learning and accessibility of education by using ICT for teaching. For achieving the objectives of true education it is essential that teachers should be familiar with the proper use of ICT in teaching so that learning can happen.

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