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Impact of Information Technology on Teaching-Learning Process

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Abstract

Today the changes brought about by new technology had a significant effect on the life of people living in every corner of the globe. Traditional process of teaching and learning in education has been replaced by new and emerging technologies. Information Technology is having a major impact on all areas of education- curriculum, methods of teaching, classroom learning etc. Rapid communication with increased access of Information Technology (IT) in home, work place and educational institutions has make education a life-long process. Information technology helps in promoting opportunities of knowledge sharing throughout the world. These can help teachers and students in gaining up-to-date information and knowledge. For effective teaching and learning right information is necessary. Information technology is a set of tools that can help the right people with the right information at the right time. This paper highlights the importance of IT in educational sector, impact of IT on classroom teaching, advantages and disadvantages of IT.

Key Words: *Information Technology, Teaching-learning process, Communication, Internet, Computer.*

Introduction: Today knowledge and information are the main keys of obtaining the productivity, competition, wealth and comfort. So human beings have concentrated on approaches for gaining better quality of education. Education in the 21st century is the centre from which all changes and developments arise. Today information technology has the ability of facilitating the education and learning process. Information technology is referred to the knowledge process and its applying methods, processing, transferring and making information in progress IT includes gathering, organizing, storing, publishing and using the information in the form of sound , picture graphic, text, number, by using the computer and telecommunication tolls. Important changes resulting from IT, has become the source of basic changes in the classes. The most important changes have roots in this fact that technology has enabled students to accent the out-of-class information and this has caused the increase of their motivations for learning. Information Technology has affected

changed to the methods, purpose and perceived potential of education. Information technology can provide necessary educational information when needed.

Technology is bound to rule our present and our future. This is an escapable fact that we need to face. It has ruled over different facets of our life and influenced the way we live. Computers and the Internet technology in particular have undoubtedly revolutionized the field of education. It plays an important role in this field. The student teacher interaction has drastically changed since the introduction of technology based class structure. The teacher is no longer the centre of the classroom but rather a middleman between information and student. Instead of a being passive listener, the students now become active in gaining, rearranging and displaying information.

Need of the study: Both education and learning is life time processes, they have no limit of when to start and stop. Learning helps in gaining new experiences in our everyday life, thus changing our way of thinking, living and judging human behaviour. Through education students are getting various types of information. Information technology has the ability of speeding up information delivery so this ability can be used in improving teaching-learning environment. Both teachers and students are using various technologies to achieve specific academic goals. Information technologies have reduced the cost of education. For example the increased use of internet broadband makes it easy for students to access academic information on time. Also teachers use this broadband internet to create and deliver information using videos and graphic illustrations. It enables teachers and students to communicate with each other through electronic email. Information technology speeds the transfer and distribution of information. Through online examinations students are getting degrees which make them fit for better employment. Today educational institutions publish their results online so students need not have to wait for long to know about their performance. IT also facilitates group discussion. Information technology has changed the way pupil learns through introduction of audio-visual techniques in education.

It reaches to the individuals, groups and masses, privileged or unprivileged through its media or means. Information Technology can help the teachers, learners, researchers, administrators, and educational planners to get access valuable treasure of knowledge, skill and application for improving their own tasks. Distance learning, virtual classrooms, e-learning and m-learning are the latest concepts and trends that are emerging in educational horizon of our country.

Objectives:

The present study has the following objectives-

Obj. 1: To know the importance of Information Technology in educational sector.

Obj. 2: To know the impact of Information Technology on classroom teaching.

Obj. 3: To know the major advantages of Information Technology.

Obj. 4: To know the major disadvantages of Information Technology.

Methodology: The data of this qualitative study was collected from secondary source like different research journals, books, websites etc.

Findings:

According to the objectives of the study findings are discussed below-

Obj. 1: To know the importance of Information Technology in educational sector.

Today IT serves as a useful tool in enhancing the teaching skills and learning ability. Audio-visual education can be easily provided with the help of IT. Computer is a useful tool in all areas of teaching-learning. Multi-media technologies are used in schools, colleges to communicate ideas between students and teachers. Today technology-base education is attainable at the universities of developed countries. Smart schools have made a leap in virtual learning. On-line learning and remote training are among new education forms in the new century. By evolving the learning environments at the beginning of 21st century, individuals and societies put heavy responsibility on the shoulder of educational institutions and their traditional structures by their increasing need of education.

Today various informational and communicational technologies have the ability of facilitating the education and learning process. Also there is evidence stating that information technologies provide effective and inflexible methods for professionally developing teachers.

Now a day IT facilitates group teaching. Students are using mobile, recording, play back system, motion pictures, film-strips, television, audio-tapes, records, teaching machines, computers and video-discs to communicate and displaying information. Online library serving a useful purpose for both teachers and students in gaining plenty of information. As part of the IT curriculum, learners are encouraged to regard computers as tools to be used in all aspects of their studies. In particular, they need to make use of the new multimedia technologies to communicate ideas, describe projects, and order information in their work. This requires them to select the medium best suited to conveying their message, to structure information in a hierarchical manner, and to link together information to produce a multidimensional document.

Information Technology plays a vital role in developing rural education system in India as well as it ensures awareness among the rural population about the importance of education. Rural schools today are also using e-learning technologies like audio and video conferencing for providing education to students. Computers are considered as an asset. These are major draw to bring students to the school. Computer is a very interesting aid for education of rural children. Students living in rural areas are receiving Computer Assisted Instruction through collective efforts of government. Drop-out rates has been reduced to a great extent through computer aided education. EDUSAT are providing video education in rural areas. EDUSAT are launched by ISRO. Samudaya a scheme- under this programme 2000 children are taught English, Science, Social Science and Mathematics through technology. Using the same method 250 teachers was trained and the outcome was really

positive. It tremendously reduced the school drop-outs rate, absenteeism and at the same time improved the level of confidence.

Obj. 2: To know the impact of Information Technology on classroom teaching.

IT has a very significant influence on classroom-learning. Most of the schools now a day's deliver knowledge and information with teaching aids like slide projector, over-head projector and LCD projector. Sometimes audio-visual tapes, floppy disks and CD-ROMS are also used by teachers to provide instruction on various disciplines. Computers play a major role in creating learning material. Besides this, other types of information such as clipart, animation, graphics, music, voice and live interaction makes the classroom teaching very effective. The use of multi-media computer serves a fruitful purpose for training individual student. Compared to TV it helps to control the response of instruction transfer process according to the grasping capacity of the learners so as to make purposive and situation specific interface with the available information package. This creates an identical condition to the classroom on computer monitor without engaging a teacher and the given package can be browsed again and again by the learner to match with his or her own learning process.

Today billions of students are using internet. Through Google, MSN or Yahoo students can get various kinds of information with sudden click of a mouse. Internet has reduced the cost of buying books. It enables students to download books and learning materials from different websites, along with movies, games, pictures and so on which assist in their all round development. Besides these, the internet provides useful opportunities for students to access electronic libraries, e-book catalogues, scientific documents, and academic works. It also helps teachers, professors, research scholars to publish their articles, journals on websites. Launching the internet in the classrooms allows teachers to use on-line resources, educational videos, programs, visual aids and so on.

Internet also serves the opportunity of virtual classrooms which is a web-based environment that allows students to participate in life training events without the need to travel. Students listen lectures, ask questions, and receive feedback just as they do in conventional classroom. Student can perform it from anywhere if he or she has internet connection. Thus it also serves the purpose distance education. The Internet in general and the World Wide Web in particular are important enablers of both formal and informal education.

Information Technology has brought about revolutionary changes in the education of children with special needs. Modern computer technology has opened the gates for classroom communication, education of the children like visual impaired, hearing impaired, learning disabled, etc. It enables children with visual impairment to use Braille computers to take notes and tests in the class and prepare assignments and paper at home. A special apparatus named Cranmer Abacus helps them to learn number concepts and perform calculations.

Telecommunication devices (TDD) are used for students with hearing impairments. Other technological aids include cochlear implants, hearing aids, assistive listening devices, alerting devices, television and film captioning and text telephones which facilitate the teaching learning activities of these children in the classroom.

Hyper-text technology is used for children with learning disabilities as they cannot follow text book like their normal peers. They also take the help of hypermedia technology to listen, watch, locate and search different information. Sometimes talking books, recorded text and lectures are also used in classroom for providing instruction to children with disabilities.

Obj. 3: To know the major advantages of Information Technology.

The major advantages of Information Technology (IT) are:

❖ **Benefits for students:**

- a) **Promotes independent learning for the students-**Students can learn from their own without the assistance of parents and teachers. They are just going to surf the internet in order to look for the lessons they need to study. Quick accessibility and well equipped with skills and knowledge in operating a computer would be very helpful for the students.
- b) **Easier access to information-** Through computers students can get a huge amount of information. They do not have to depend always on books and class lectures. The information they need is easily accessed on computer.
- c) **Promotes exciting way to educate students-** Since there are videos, images and other graphs and text found in computer more students would feel the excitement in studying through the use of gadget. This motivates students for studying.
- d) **Accessibility and wider participation-** The emergence of online classes opens doors to many students who could not otherwise participate in educational settings due to time and financial limitations. Online courses offer the non-traditional students the chance to go back to school and improve their lives according to their own schedule.
- e) **Prepares students for the future-** From the way technological advancements are going it will be obvious that the future will be digital and technology focussed. Well-versed use of technologies will help students in collaborating, communicating, competing and finding better jobs in future.
- f) **Co-operative learning-** The internet facilitates co-operative learning, encourages dialogue, and creates a more engaging classroom. For e.g. a LISTSER V will allow students to get involved in class discussions through e-mails in a way which is not possible within the four walls of the classroom.
- g) **Locating research materials-** There are many more resources on the internet which a college or a university library can't provide. Students pursuing higher education can use these resources of internet for their research work.
- h) **Acquiring varied writing skills-** Internet helps students to develop their hypertext skills. These skills help students to gain experience in non-sequential writings.

❖ **Benefits to teachers:**

- a) IT facilitates sharing of resources, expertise and advice.
- b) It ensures greater flexibility for teachers for carrying out different kinds of task at different times.
- c) IT promotes skills, confidence and enthusiasm of teachers through various teaching techniques.
- d) It helps teachers in easier planning, preparation of lessons and designing of teaching learning materials.
- e) Through graphics, pictures and PPT teachers can present the material in more interesting and attractive ways.
- f) Teacher can guide and help students in searching the qualitative material.
- g) Students learn by interactive technologies and teacher facilitates them on how to use and reflect responses. He may be diagnosing learning problems and helping students in finding their solutions.
- h) By using modern technological devices teachers can expand their knowledge and develop their professional teaching skills.

Obj. 4: To know the major disadvantages of Information Technology.

The major disadvantages of Information Technology (IT) are:

- a. **Results in lack of interest in studying-** As everything is now accessible or through data saved in a computer or mobile devices, it develops poor study habits and lazy attitude among students through education. Now day's students are more dependent on internet instead of their books and input from the teachers.
- b. **Discover unusual things in the computer-** Internet do not always help students in search of things that are valuable for them. There are several things found in the internet that are not good for students. As a result student may lead to wrong path.
- c. **Hindrances academic performance-** Instead of using their laptops and tablets for their studies and online test students more often visit social networking sites which may lower their academic performance.
- d. **Expensive-** The IT facilities are not available in the schools. Most of the schools are not in a position to afford the purchase, maintenance and other expenditure involved in its use. The cost of laptops, wireless broadband projector for example contributes a large percentage of the school budget.
- e. There is a widespread ignorance about the use, applications and advantages of IT on the part of teachers, head of the institution and educational authorities responsible for bringing improvement in the functioning of the school particularly related to teaching-learning and organization of co-curricular activities with the help of such technologies.
- f. **Today's teachers are not well-**equipped with modern use of technology. There is a great paucity of such competent and skilled teachers who can use and integrate right

technology in an appropriate manner for effective integration of IT in dealing with school curriculum bringing desired change in the behaviour of the learners.

- g. The prescribed curriculum in schools, colleges and university, the examination and evaluation system, the available instructional material and the infrastructure are not in a position to provide desirable support for the use and application of IT in the teaching learning process and other useful activities for the benefit of the pupil.
- h. Lastly it can be said that lessons delivered online or through digital resources reduce the face-to-face interaction between teacher and student that provides a more personal experience.

Conclusion: Information technology helps teachers and learners to participate co-operatively in the teaching learning process. It broadens their thinking, knowledge and enables them to perform various educational activities in the educational sector. Various kinds of technologies both hardware and software makes the teaching-learning process more interesting. Use of the advanced technologies has a tremendous scope in improving the products and processes of education. It fulfil many needs and requirements of the present age in the field of instruction and education like individualization of instruction, utilization of multi-sensory and multi-media aid material and efficient and effective management of different educational institutions. Information technologies guide teaching-learning process in more productive fashion. Now the teacher guides the learners in their study, playing the role of a coach or mentor. Now the role of teacher has been changed from centre of instruction in conventional classrooms. He decides contents, experiences, activities, locates the resources and guides learners how to have access and utilize the information for required outcomes.

The future of education is not predetermined by modern information technology but rather than this future will hinge prominently on how we construct the place of technology. It was found that still faculty requires support to enable them to effectively use the technology to the benefit of their students. This support should be provided by the institutions. Today internet serves as an asset in providing global information to millions of learners, teachers and administrators. So launching the internet in classrooms as well as administrative areas substantially enhances the opportunities of modern education and allows human beings to use online database resources.

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