

## Educational Development and Information Technology

Dr. Hajera Fatima Khan

**Abstract:** The purpose of this study is to examine the role and need of information technology in education. The main focus of this study is to highlight the importance and usefulness of IT in education. In this article, the researcher has scrutinized the status of educational technology in the curriculum of a number of developed and developing countries, so that curriculum developers in developing countries can use these experiences to implement IT in their own system of education. The combination of education and information technology has been considered as the key factor in human progress. It's a known fact that no country can boosts its economic development and educational system without the use of information technology in education. It's not only about the new techniques for teaching and assessing, technology has a great impact on the characteristics of the 21-st century learners; their interest, needs, and learning styles. Knowledge and information are now within a button for everybody at any time, the new targets of learning now is not only passing of information but also to build skills. The teacher now is a facilitator for the learning process that is built on students' curiosity to inquire knowledge, and to focus on to "inquires" more than on "knowledge". In today's emerging world IT has attracted a lot of attention in academics; educational system can be befit through the appropriate use of information and communication technologies. Technologies and computers continue to Integrate in to the educational process and increasingly are becoming an integral part of the educational system. With the increasing knowledge and technological progress of the society; every country requires learning skills that could help in the development of science and technology. Educational system in a community which cannot be separated from other social institutions, national and international interactions. The study also emphasized that Information technology in education needs to be learned along with the use of hardware resources otherwise, purchase and transfer of technology and investment will be just wasting of resources.

**Key words:** Information Technology, Educational Technology, Hardware resources, Decision making.

---

### 1. Introduction

Technology is the most significant criterion of development and growth in today's world and education is a means to achieve it. Changing the educational system is very important for a society whose objective is to advance on the basis of knowledge and technology. To achieve this, the country needs to employ educational technology, i.e. planned designing, implementation and evaluation of fundamental and practical studies. Considering the studies and the available information about the growth of Information Technology in education across the world, we'll find that in many developed and developing countries, comprehensive programs have been codified in order to mobilize the schools with computers and internet. Comparative studies in education are among the methods through which we can help educational systems to remove their weaknesses and deficiencies.

According to Guangze [2004] comparative educational technology as "discovering and synthesizing the similarities and differences, in theory and practice, of education among countries, regions and nations with the goal of development and growth of learning".

"Information Technology," is pronounced "I.T." refers to anything related to computing technology, such as networking, hardware, software, the Internet, or the people that work with these technologies. Many companies have IT departments for managing the computers, networks, and other technical areas of their businesses. IT jobs include computer programming, network administration, computer engineering, Web development, technical support, and many other related occupations. As we live in the "information age," information technology has become a part of our everyday lives. That means the term "IT," already highly overused, is here to stay.

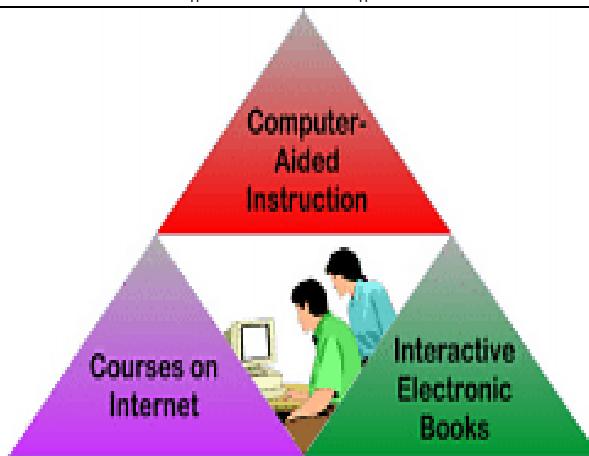


Figure 1. The structure of Integration of three Information Technologies for education.

Both education and learning are life time process, they have no limit on when to start and stop. In our daily live we learn new things which helps us in changing the way we leave. Education provides us with information, and then we have to learn and process this information for our use. It is very important to make education accessible at any time by everyone; this will help in reducing on the level of illiteracy. Information technology has the ability of speeding up information delivery, so this ability can be used in improving our educational environment. With the implementation of Information Technology, costs of educational material are cut down and it makes it easy for students to learn from all over the world.

New technologies are changing the way we learn and they have also changed the process of teaching. Teachers and students are using these new educational technologies to achieve specific academic goals. The only challenge is that Information Technology comes at a cost, so those who cannot afford the price tend to have difficulties to benefit from the opportunities of it in education. For example, the increased use of internet broadband makes it easy for the students to access academic information on time. Also teachers use this broadband internet to create and deliver academic data using videos and graphic illustrations.

## Background

What is Information Technology? According to the article of 1958 in Harvard Business, information technology is consisting of three basic parts:

- Computational data processing
- Decision support, and
- Business software

The time period marked the beginning of IT as an officially defined area of business; in fact, this article probably coined the term. Over the ensuing decades, many corporations created "IT departments" to manage the computer technologies related to their business.

Now days IT departments are responsible for:

Computer technology support

- business computer network and database administration
- business software deployment
- information security

Especially during the boom of the 1990s, Information Technology became associated with aspects of computing beyond those owned by IT departments. This broader definition of IT includes areas like:

- software development
- computer systems architecture
- project management

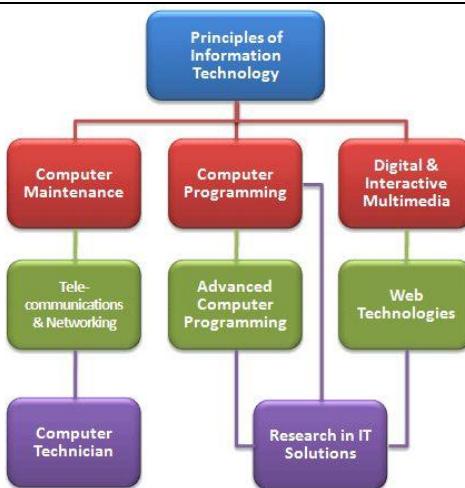


Figure 2.The structure of Principles of Information Technology.

## 2. Research Methodology

The primary source of the information in this research study is the secondary data. The available information on internet has been extensively used to complete the study. All the available Journals, Articles, papers provided necessary information to the group to finalize the research study.

### Objectives of the Study

- The primary objective of the research paper is to get the full acquaintance of the educational development and information technology in education.
- To know the role of IT in education.
- To study the importance and impact of IT on education.

## 3. Importance of Information Technology in Education

- Information technology in education has improved communication a lot by reaching in regions where it was previously thought hard to reach. Tutors can give lecture to learners over long distances and scholars can achieve their academic papers through eLearning. Also, students that feel like studying from home can now do it through e learning.
- Information technology has also improved research. Now a day's there are many online libraries that assist teachers and students with comprehensive study materials. It also helps the instructor's to post their work online for their students. Syllabus changes can also be revised through the internet. Students can also check the number of units they have to cover in a semester through the internet.
- Information technology in education has improved and with it one can easily access to different learning resources. IT helps to improve teaching and learning abilities of the students with audio and visual education. Students are taught with projectors in classrooms or lectured through class speakers. Students and teachers can also easily download eBooks from the internet which can be access from anywhere through phone or tablet.
- Through eLearning, students can now study whenever and wherever they want. Without any fixed timetable; people from different time zones can do the same courses in the same academic institute and can also take their examinations whenever they want with time provided to them. Students can now create combined ideas, solve problems and learn more through group studies and academic online forums.
- IT also helped children with disabilities, they can learn now with the help of gadgets. For example, the hearing impaired people can use electronic devices called hearing aids. They can also use visual learning where sign language is used on electronic media to enhance communication. This has been a role of information technology in education.
- The incorporation of information technology in education has brought so many positive changes. More academic systems should embrace technology because it makes teaching more effective and aids in practical learning. Students should also embrace it because in future, most of the jobs will be technologically based. With time, everyone will see the significance of information technology in education.

#### 4. Impact of Information Technology on Education

The combination of technology and education has been considered the main key factor to human progress. Education feeds technology which in turn forms the basis of education. It is therefore evident that information technology has affected changes in the method of teaching, purpose and perceived potential of education.

- **Changes to learning:** large databases of information fundamentally changes the educational sector, learners can now be the creators and collaborators in access and construction of discourses of information. Due to the technological knowledge, young people can derive cultural capital from their understanding of modern information technologies, and thereby have a great input into educational change. Technology also facilitates the rapid exchange of information by researchers on specific topics, so that the distribution of information is greatly increased. With the increased access to large amount of data students need assistance in selecting, evaluating and analyzing of information, to determine the currency, validity and veracity of the information itself.
- **Changes to teaching:** The highest level of change occurring in relation to information technology and education is the way of teaching .Teaching is increasingly being seen as occurring via technology, rather than utilizing technology. Information technology particularly impacts on course content, teaching methodology and the recruitment and training of teaching staff as well as the content of courses. Information technology also requires teachers to learn new sets of skills. Utilizing computer technology improves the educational experience of the students. Software program help teachers to think laterally and systematically, and also helps to produce better teaching materials.

Teacher's role in education will change with the advances of information technology. A teacher helps the students to develop their overall skills in order to determine, find, analyze, understand, apply, and interpret information.

#### 5. Role of Information technology in education

- **Numerous Educational Resources:** Information technology helps to access academic information at any time. Both teachers and students use Information technology to acquire and exchange the educational material. For example; teachers can easily provide audio and visual classes to their students using computers and broadband internet. IT helps the students to attend a lecture while not in a physical classroom, and also teachers can assign tasks to students via electronic email or campus educational forums.
- **Instant Access to Educational Information:** It speeds the transfer and distribution of information. Students can access the data easily by using computers and mobile phones. IT experts have coded educational applications which can help students to access information very fast. Students can also use e-library mobile phone applications to download e-books, which help them to read the books anytime anywhere.
- **Group learning:** IT has helped students and teachers a lot in group learning. With the help of IT schools can create academic forums, where students can discuss on a specific topic without any fear of expressions. Under this group learning it's not necessary that all the group members will be from the same class but students from various schools can also join this group and share their academic information which in turn is beneficial to the group members.
- **Long Distance Learning:** Information technology helps the students across the globe to study from anywhere through online education. Many universities have opened their online courses to the world; students from different parts of the globe can take these courses at a very nominal fee, and these students do the same exams and are marked by the same faculty members.
- **Full Time Learning:** Nowadays students can access information at any time. Not like before where learning was limited only to the classroom and students and teachers could only access information during the school time. With the help of IT online education has facilitated all over the world.
- **Use of Audio-Visual Aids:** Information technology has changed the way of teaching and learning of information. Audio-visual usage in education not only helps the students to understand the concept but it also helps the students to enjoy learning because of colorful images shown on projectors. It helps students to get education easier and faster.

#### 6. Information Technology and the potential of education

Information technology frees educational institutions from the constraints of space and time, and also enables the delivery of educational services anywhere, anytime. Therefore with the invention of IT we can foresee a future where soon physical libraries would be replaced by digital libraries and can be easily available to everyone; and scholars could cease to be located around a geographical focus and will probably become increasingly "located" around a specialization, but physically located anywhere in the world. We could

also imagine a day when modern technology will enable students in a given location to access the best of instructors in a given field and to interact with them, whether “live” or via video.

## 7. Issues and Challenges in Information Technology

Besides many advantages IT also has certain issues and challenges which are discussed below:

- **Data Overload:** As computing systems and capabilities continue expanding worldwide, data overload has become a critical issue for many IT professionals. To process huge amounts of data useful business intelligence requires large amounts of processing power, sophisticated software, and human analytical skills.
- **Teamwork and communication skills:** To manage the complexity of IT systems in most business team work and communication skills have become very essential. Many IT professionals are providing services to the business users who are not trained in computer networking or other information technologies but are very much interested in using IT as a tool to get their work done efficiently and effectively.
- **System and network security:** These issues are a primary concern for many business executives, as any security incident can potentially damage a company's reputation and can cost large sum of money.

## 8. Changing the educational institution

The communication technology can be changed, with changes in methodology, and modes of education. The educational institution itself may need to be revised at the organizational level. Hence we could foresee a future of increased competition and alliances in which educational institutions avoid monolithic approaches, and embrace more on strategic and collaborative approaches.

## 9. Conclusion

It has been concluded from the study that Information technology have positive effects on student's attitude towards learning. In order to engage students in learning we need to provide them with activities that are innovative, challenging and purposeful. In today's world education needs modern, moderate and simple technologies to meet its needs and correct use.

Students feel more motivated to learn the subject by using computer based instruction. IT has increased students self confidence and self esteem. IT has great impact on languages arts, writing instruction, Mathematics, science, Telecommunication. It also provides learning more permanent by providing rich experiences to the learners.

IT increases student's vocabulary by eliminating verbalism. Promotes continuity of thought. It also offers instructional capabilities by linking learners to information and educational resources, helping learners to visualize problems and solutions.

IT helps the Instructors to increase their productivity by providing fast accurate information and production of better looking materials. IT helps to get immediate feedback of student's performance to access and facilitate learning. IT can also reduce the tremendous effort given by students to gather number of printed books and journals for acquiring knowledge and increase students' focus on more important knowledge gathering process.

IT can represent education in ways that help students understand latest concepts and ideas. It also enables instructors to integrate project based learning and develop presentation skills and analytical skills.

IT has afflicted changes to the aims of education, consequently now education is increasingly perceived as the process of creating, preserving, integrating, transmitting and applying of knowledge. The perceptions of knowledge itself have also changed by IT, whereas knowledge could once have been perceived as unchanging; it should now be perceived as “revisionary, creative, personal and pluralistic”.

Last but not least the future of education is not prearranged by the use of modern information technology, but rather that this “future will hinge prominently on how to construct (and construe) the place of technology” in the education process.

**References**

- [1]. Farideh Hamidia<sup>1</sup>, Maryam Meshkat b, Maryam Rezaee c , Mehdi Jafari “Information Technology in Education” sciencedirect Journal,Procedia Computer Science 3 [2011] 369–373
- [2]. Farideh Hamidia<sup>1</sup> , FarhadGhorbandordinejadb, Maryam Rezaee c , Mehdi Jafari “A Comparison of the Use of Educational Technology in the Developed/Developing Countries”,sciencedirect Journal,Procedia Computer Science 3 [2011] 374–377.
- [3]. Mr. ChinmoyGoswami “Role of Technology in Indian Education” DOI: 10.7763 10.7763/IPEDR. [2014]. V79.2.
- [4]. <https://techterms.com/definition/it>
- [5]. <https://www.lifewire.com/introduction-information-technology-817815>
- [6]. <https://www.fedena.com/blog/2015/10/the-role-of-information-technology-in-education.html>
- [7]. <https://www.useoftechnology.com/information-technology-education/>
- [8]. [http://www.eduroute.info/Impact\\_of\\_Information\\_Technology\\_on\\_Education.aspx](http://www.eduroute.info/Impact_of_Information_Technology_on_Education.aspx)
- [9]. <https://itsstillworks.com/benefits-information-technology-education-1213.html>
- [10]. Dr. Hajera Fatima Khan “Accounting information system: the need of modernisation” International Journal of Management and Commerce Innovations, Vol. 4, Issue 1, pp: [4-10], Month: April 2016 - September 2016