

Role of Technology in Educational Empowerment

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Abstract

Technology is the application of new ideas, processes, in performing a task in any situation. It can be applied in management, trade, medicine, health, education and all types of services in civil society. Technology has come to stay in today's classroom. Today children have become dependent on technology to learn. The invention of the printing press, radio, television, computer and internet have become tools for development of higher order of thinking skills. Education Technology has been and still remains an important area of study. It has been defined as the development application and evaluation of system techniques and aids to improve the process of human learning. The term Technology-Integration is a term currently in use. It is concerned with the use of technology tools in general areas in education. It allows the learners to apply computer and technology skill in learning and problem solving. The Integration between education and technology has assured a new area of change and development in the field of education, teaching, learning, extension and training of teachers, administrators and even policy makers, Revolutionary changes are visible and still are on move. It shows that man has tremendous capacity to think, research and apply knowledge in making his life more comfortable and adjustable with changing environment. Modern technology like – printing and press, audio-visual aids, computer, internet, wire and wireless based technology has played an important role in education and made teaching, learning effective, facilitate and enjoyable. The aim/objective of this paper is to study the concept of technology integration with education and why it is the necessity of today's students and teachers to get empowerment for the 21st century skill ?

Keywords- *Technology, Integration, Empowerment*

Reference to this paper should be made as follows:

Dr. Anup Singh Sangwan

“Role of Technology in Educational Empowerment,

RJPSSs 2018, Vol. 44,
No.2, pp.211-218,
Article No. 30,

Online available at :
[http://anubooks.com/
?page_id=2012](http://anubooks.com/?page_id=2012)

Introduction

Technology is the collection of techniques, skills, methods and processes used in the production of goods and services or in accomplishment of objectives, such as scientific investigation. The simplest form of technology is the development and use of basic tools. Developments in historic times, including the printing press, the telephone and the internet, have lessened physical barriers to communication and allowed humans to interact freely on a global scale.

The use of the term technology has changed significantly over the last 200 years. Before the 20th century, the term was uncommon in English, and was used either : to refer to the description or study of the useful arts or to allude to technical education, as in the massachnsetts institute of technology (chartered In 1861).

W. Brain Arthur defines technology as “a means to fulfill a human purpose. Technology can be viewed as an activity that forms or changes culture. Infact, technology is the application of ‘new idea’ used in performing a task. It can be applied in management, trade, medicine, health, education and all types of services in civil society.

Types of Technologies:

New technique and technology are emerging in developing economies of the world countries, following are some of the technologies that have developed:-

1. **Medical Technology:** Medical technology or medtech, encompasses a wide range of health care products and is used to treat diseases or medical conditions affecting humans. Such technologies are intended to improve the quality of health care delivered through earlier diagnosis less invasive treatment options and reduction in hospital stays and rehabilitation terms medical technology may broadly include medical devices, information, biotech and health care services.
2. **Information Technology:** IT is the application of computers to store, study, retrieve, transmit and manipulate data or information often, the context of a business or others enterprise. IT is considered a subset of information and communication technology. It includes computer hardware, software, electronics, semiconductors, Internet, telecom equipment and e-commerce.
3. **Communication Technology:** It refers to all equipment and programs that are used to process and communication information. It includes e-mail, texting, instant messaging, social networking, tweeting, blogs, video conferencing etc.
4. **Construction Technology:** It is a professional discipline that deals with the designing, planning, construction and management of infrastructures such as roads, tunnels,

bridges, airport, railroads, facilities, buildings, dams, utilities and other projects – wikipedia.

5. Rural Technology: How do we encourage development of technology and technology based solution appropriate for the rural sector? How do we encourage grass root innovation? How do we support rural employment and bring equitable growth through the application of technology.

6. Education Technology: ET is the study and ethical practice of facilitating learning and improving performance by creating, using managing appropriate technological process and resources. Educational Technology involves the disciplined applications of knowledge for the purpose of improving learning, instruction, evaluation and or performance.

Technology Integration with Education:

The term Technology Integration is a term currently in use. It is concerned with the use of certain technology tools which can enable the learners to deal with the learning and problem solving. It is the use of technology tools in general areas in Education. It allows the learners to apply computers and technology skill in learning and problem solving.

Educational technology has been, and still remains an important area of study. It has been defined as the development, applications and evaluation of system, technique and aids to improve the process of human learning. Educational Technology carries within its fold developing and application of systematic techniques to make the Education System operative.

Feature of Technology Integration With Education:-

- Use of technology as a tool not just a technique or methodology.
- Selection of right tool for getting right information.
- Use of technology to enhance learning in the desired content area.
- Technology integration means the desired curriculum outcomes.
- Use of right tool to obtain the desired information in time, as and when required.

In brief, Integration of new technology with Education is nothing but the use of technology in day-to-day classroom to get desired teaching learning outcomes.

Main Tools of Technology Integration with Education:

It is sometimes difficult to describe how technology can impact learning because the term ‘technology integration’ is such a broad umbrella that covers so many varied tools and practices. There are many ways technology can become an integral part of the learning process just a few of these ways are listed below:

1. Computer:- Computer plays an important role in education. It is very popular and much used tool in finding information and learning facts, manipulating the information and in the communicating what has been learnt.

2. Internet:- It is prominent store house of a huge mass of information for the people of world. One can get a variety of information from various sources.

3. Student Response System:- It consists of handling remote control. The students use response pad to send their answer to the questions asked by the teacher.

4. Interactive White Boards:- It is an innovative technology. It allows students to interact with material technology. It allows students to interact with material on the computer. Some interactive white boards software allow teachers to record their teaching and post the material for review by students later.

5. Project-Based Activities:- These activities enhance the use of technology-interaction with education. Some of these activities are as under:-

(a) E-portfolio is a collection of students work. It exhibits their achievement in one or more areas.

(b) Cyber hunt is a project based activity. It helps students gain in experience in exploring and borrowing from the internet.

(c) Virtual field trip:- is a website. It allows the students to experience peaces, ideas or objects beyond the four wall of the classroom.

(d) Webquests are student-centered, web-based curricular units which use internet resources to collect information and use on web to support the instruction taught in the class-room.

Usefulness of Technology Integration with Education:-

The teaching strategies based on educational technology can be described as ethical practice that facilitate the students, learning and boost their capacity, productivity and performance. A number of educational foundations and individual researchers have found the most common reason for integrating new technology into educational programmes:-

• To get connected with one another – Technology integration with education will enable the learners to get connected with one another. These connections will extend the teaching-learning experience. It will make teaching-learning more meaningful and beneficial in the future.

• Support to different styles of learning:- New technology has become a part and parcel of educational programme. As a result, students can understand their experiences through verbal, written or geographical means. So many more students become engaged in the learning process.

ð A positive role in Academic Achievement:- Technology integration with education can enhance in academic achievement. A number of world organizations are dilumenting research studies that link technology to enhanced academic – achievements. It indicated that if teachers are using new technology are well trained in the use of proper tools, it would definitely enhance in academic achievement of the pupils.

ð Support to multi-disciplinary approach to learning: It will lead adequate support to students to combine their mathematics, logical, scientific and social knowledge to make their lives and interactions with the world clearer.

ð It will help students with disabilities:- Technology integration with education will help students with disabilities to over-come barriers to their learning by using computing technology for tasks such as reading and writing documents, communication with others, and searching for information on the internet, students with disabilities are capable of handling a wider range of activities independently.

ð Enrichment of student learning:- New technology will provide young learners as well as promising educators with additional tools to enhance students’ learning and educators teaching modules.

ð Support to Teachers of different disciplines: Modern teaching has traveled a long distance because of modern technology teachers of today’s school must become conversant with new tools of teaching and learning. They must receive training in the use of new technology. This training will not only enrich their teaching methods but also equip them with skills and enhance their confidence to become well-versed in class room management.

ð Transformation of traditional teaching:- New technology is creating new media such as world wide web(www). The new media are empowering innovative pedagogical skills, once new technology is integrated with education, Indian education system will shift to new models of teaching / learning better suited to developing 21st century citizens.

ð Technological Empowerment:- It is related to the process of increasing one’s power or capacity to perform any task assigned to him. Now the question arises how one can achieve empowerment. It is done by individual or it is facilitated by some external agency. Here it suggests that there must be some external or a helping instrument or tool to facilitate the process of empowerment. When technology is accepted as an external agency which has the power to increase one’s capacity to perform a particular task is termed as technological empowerment. There, it can be said that technological empowerment is a process where a teacher, as a professional or an administrator is

aided by the tool of technology. It enable him to enhance his capacity for performing a task efficiently.

As the advancement of knowledge, research ideas, innovation in science has taken place, the application in developing new techniques and technologies have taken place in all the fields of human activities. It has empowered man of new skills and competencies also brought a tremendous new directions all over the globe. Modern technology has played an important role in education. This trend can be observed due to following technologies:-

- Introduction of audio-visual aids facilitate the teaching-learning process.
- Printing technology and press made teaching, learning effective, facilitative and enjoyable.
- Computer-based technology.
- Internet technology based teaching and learning including online learning and training.
- Wire and wireless-based technology including telephone and mobile learning.

Application of Technology in Education:-

Education is a systematic process of changing one's behavior. This process today has been evolved by a number of techniques and technologies, which are labeled as 'software' and 'hardware'.

The software is the material which is recorded in digital form. It is being used by the teachers and students today. The equipment used in recording on CD, pen-drive and floppy are called hardware.

In addition to these techniques, modes of instruction, interaction and communication used by the teachers in the class-room have changed. Some of them are listed as under:-

- Application of systematic approach to teaching, learning and management.
- Application of research based techniques in evaluation, types of questions, as signment, projects, question banks etc.
- Application of techniques of behavior modification like modeling / social modeling, counseling and feedback.
- Planning and designing curricular material, instrument planning and real learning.

Modern technologies, especially hardware enabled all teachers, students, administrators and policy makers. It made education with a new vision in 21st century. Now we can see the following changes in Educational field:-

- Use of new technology of teaching like overhead projector (OHP), LCD, computer with other networking to cover student population.

- Developing of learning based instructional material of learners.
- Mobile learning through 4G technology.
- Computer based learning like online, e-mail etc.
- E-learning, all learning through variety of Electronic-media.
- Satellite-based instruction in schools & colleges.

Thus, we see the new technology has really impressed the education a lot.

Conclusion

The three cardinal principles of Education Policy viz., access, equity and quality could be served well by providing connectivity to all colleges and universities, providing low cost and affordable access-cum computing devices to students and teachers and providing high quality e-content free of cost to all learners in the country. It will help to bridge the digital device, i.e. the gap in the skills to use computing devices for the purpose of teaching and learning among urban and rural teachers / learners in high education domain and empower those, who have hitherto remained untouched by the digital revolution and have not been able to join the main stream of the knowledge economy.

Traditional learning process is learning by rote memory. When new technology is integrated into education, it brings revolution in the learning process. It improves students learning processes and the outcomes are very encouraging. Another reason for technology integration is the necessity of today's students to have 21st century skills. These skill include: Personal and social responsibility, planning, critical thinking, reasoning and creativity, strong communication skills, cross-cultural understanding, visualizing and decision making. The integration of new technology with education creates interest in learning. If children are educated about the right use of computer and internet, they will use them to explore new avenues for gathering useful knowledge. This will enrich the learning process.

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