

Development Of Educational Technology In India

Dr. Sarvesh Yadav¹

¹Asstt. Prof. Deptt. of Education, Maharaja Agrasen Himalayan Garhwal University Uttarakhand

Abstract

Educational technology is a gift of the twentieth century. In the present era, the development of science and technology has affected every aspect of life. No aspect of human life is untouched by it. The industrial revolution that took place in the beginning of the nineteenth century inspired scientists to invent machines and the use of these machines brought revolutionary changes in the business world. As a result of these changes, educationists also tried to find out the possibilities of using machines in the field of education. In 1926, Sidney L. Pressy of Ohio State University, USA, first used a teaching machine in the field of teaching. Thereafter, between 1930 and 1940, Lumsdane and Glaser made systematic efforts to mechanize teaching by using some specific types of books.

Haas did not do public work, prepared description of defense. In 1950, the term educational technology was first used in England in a report by Brynmor. After this, in 1954, B.F. Skinner did important work on educational technology. He conducted many tests on various animals and used them to make educational principles and learning effective. The most important contribution of Mr. Skinner is the development of programmed learning. In this method, students receive purposeful education based on their own learning speed. Later, programmed learning was prepared on many teaching topics based on this method.

Keywords- Educational Technology, E-learning, Digital Education, EdTech Startups, Smart Classrooms, ICT in Education, Online Learning Platforms, SWAYAM

Introduction

After independence, Secondary Education Commission 1952-53 was formed in India to improve the condition of secondary education. This commission laid special emphasis on the use of audio-visual equipment to improve the level of education. Seeing the success of the use of educational technology in foreign countries, research, equipment and use of educational technology in the field of education were encouraged in India too. In 1965, Indian Association for Programmed Instruction was established through which the development of educational technology was encouraged.

Central Institute Of Educational Technology-

This institute is located in the National Institute of Education, New Delhi campus. The institute mainly prepares audio-visual materials and trains state level officials in various aspects of educational technology. It also determines the broadcasting service of educational television and radio programs broadcast by the State Institute of Educational Technology. This institute conducted the following programs- Preparation of media scripts for Doordarshan educational programmes. Preparing an audio CD. To prepare and broadcast educational television programmes. To broadcast educational programmes through the educational television channel 'Gyan Darshan'. To train teacher trainers in various aspects of educational technology- script writing, camera operation, studio work etc. Publication of directory of persons working in the field of educational technology. To evaluate television programmes. To provide support to State Institute of Educational Technology (SIET) of each State for enhancing the quality of academic programmes. Organizing national level seminars and workshops on educational technology. Upgrading educational technology equipment.

Centre For Education Technology-

With the financial assistance of the Government of India, in 1973, a National Technical Centre was established in the National Council of Educational Research and Training, New Delhi. (C.E.T.) was established. The main functions of this center were-

1. To do research related to how to use hard and soft technologies (Hardware & Software Technologies) in educational technology.
2. To create and develop a good education system.
3. To evaluate the materials, plans and programmes used in the field of educational technology.
4. To develop appropriate abilities and capabilities in trainers and student teachers through training.
5. Compiling various types of macro and micro education materials and distributing them to various colleges.
6. To develop educational technical awareness in schools, colleges and training colleges.

Educational Technology Project 1972-73-

In 1972-73, the Government of India started an educational technology project for technical development. The following were the tasks of this project-

1. To integrate the use of mass communication means and instructional technology at all levels of education so as to bring about desired improvements in the field of education.
2. To establish one Educational Technology Cell each in the Central and State Education Ministries.

Under this project, educational technology cells were established in states like Punjab, Uttar Pradesh, Bihar, Rajasthan, Gujarat, Maharashtra, Orissa, Andhra Pradesh, Madras and Karnataka.

Satellite Institute Television Experiment- 1975-76 (Site)-

Satellite Educational Television Experiment was started in India in 1975 as a satellite communication project. This project was jointly prepared by NASA and ISRO (Indian Space Research Institute). The objective of this project was to deliver informative television programs to rural India and to educate the poor people of India on various subjects through satellite broadcasting. This also provided technical experience related to satellite communication in the field of space research in India.

This experiment was conducted in 2500 villages of six states from 1 August, 1975 to 31 July, 1976. Television programmes were produced by All India Radio and broadcasted by NASA.

Objective And Approaches Of Educational Technology

Every sphere of human life is affected by the development of technology. Life has become simpler. Facilities of communication and dialogue between people have increased. Its effect is also visible in the field of education. Educational technology helps in achieving the objectives of education. In other words, the objectives of education can be achieved easily, efficiently and quickly through educational technology. Mackenzie and other educationists have considered the following four objectives of educational technology to be more important-

1. To disseminate information to as many students as possible.
2. Reaching maximum number of students with advanced learning materials.
- 3 To provide maximum appropriate opportunity for independent study.

4. To allow limited responses to students and to refine them.

The main objectives of educational technology are as follows:-

1. Assist in setting teaching objectives- Determining learning objectives is a major objective of educational technology. Learning objectives related to knowledge and skill development are determined based on the type of technology used.

2. Providing scientific form to teaching- learning work Educational technology provides scientific form to teaching-learning work. Teaching work is done in a systematic manner on the basis of teaching and learning principles.

3. Making teaching learning work motivating and interesting- Educational the use of technology brings interest in the lesson. Teachers teach with interest and enthusiasm and they remain eager to teach in new ways. Students also take interest in the class and participate in the activities taking place in the class with enthusiasm.

4. Educational Technology to Make the Teaching Process Effective- The use of brings creativity, enthusiasm and variety in classroom teaching. Also, learning becomes simple, clear and easily understood. Teachers take interest in teaching and students take interest in understanding the subject matter. Both these things are necessary to make classroom teaching effective.

5. Encouraging self-study- the aim of educational technology- The habit of self-study has to be developed in students. Students are encouraged to learn on their own by using computers, internet, videos, cassettes etc.

6. Providing students with the opportunity to learn according to their ability, speed and capacity- One of the main objectives of educational technology is to provide students with the opportunity to acquire education according to their ability and learning speed. With the use of computers, internet, educational television and audio-visual teaching materials, students can learn according to their convenience and speed.

7. Accumulation and dissemination of knowledge - Educational technology the aim of educational technology is to help in the accumulation and dissemination of knowledge. Knowledge can be stored and preserved through educational technology. For example, any special program can be preserved by recording it in video. Similarly, millions of people can be benefited by broadcasting any educational program.

8. Presenting the syllabus in a simple and systematic form- Generally, there is a possibility of disorganized presentation of syllabus in class teaching, but with the help of educational technology, the syllabus is analyzed and presented in a systematic form with various pictures, diagrams and necessary information. Thus, the objective of educational technology is also to present the lesson in a simple and systematic form.

9. Paying proper attention to individual interests and abilities- The aim of educational technology is to impart education keeping in mind individual interests and abilities. Every child's ability to understand is different. Through technology, lessons can be presented in various forms so that students with different mental abilities can understand the lesson easily.

10. To help in acquiring specific competencies and skills- Educational technology develops appropriate means and tools for the students to acquire specific competencies and skills.

11. Providing educational facilities to the general public- An important objective of educational technology is to help in making educational facilities accessible to all. With its help, it has become possible to provide education in all areas of the country. People can also get education through distance mode.

Thus, the objective of educational technology is to plan, organize and control the entire teaching-learning process in such a way that the highest results can be achieved and the educational process can be made as effective as possible. Educational technology is not the use of new scientific tools, equipment and machines etc. in education, but along with the use of new equipment, it also makes systematic and planned use of various technical and psychological principles, methods, systems and actions discovered in the field of educational psychology to solve educational problems, achieve educational goals and make the educational process effective.

Approaches Of Educational Technology-

There are three main approaches to educational technology:-

1. Hardware Approach or Educational Technology First
2. Soft Craft Approach or Educational Technology Second (Software Approach)
3. System Analysis or Educational Technology Third

Hardware Approach-

Educational technology first or hard craft approach is also known as audio-visual aids or machine systems. The use of machines in education has become possible due to the development of physical science and engineering. Therefore, people believe that machine technology and educational technology are linked. By using machines in the field of education, maximum numbers of students are being benefited simultaneously in less time, less power or less cost. For this, radio, tape recorder, television, projector, computer and video etc. are being used in teaching. Teaching also becomes more effective. At present, by using them in correspondence courses under distance education in open schools and open universities, it has become possible to make educational facilities available to the general public living in remote, neglected and backward areas. The use of these machines has become mandatory in seminars, symposiums and workshops. The use of computers has become inevitable in administrative, financial and research work. Computers provide special help in analyzing data, interpreting, making diagrams, collecting data and preparing research papers. In this way, technology is helpful in preserving, transferring or transmitting and developing human knowledge. Davis said that the hard craft approach is an attempt to educate more students at a lower cost and in less time by gradually mechanizing the teaching process. The hard craft approach was first described by A.A. Lamsdeine. This approach is also called audio-visual material.

Thus, the rigid craft approach refers to those machines and equipments which help is taken in teaching. Chalkboard, radio, overhead, projector, slide projector, video cassette recorder, television, computer, calculator, computer printing machine, audio and visual recorder etc. can be included under this.

Emerging Features Of Educational Technology-

As a result of continuous and rapid development in the field of educational technology, new technology is establishing its dominance in all fields like education, communication, management, medicine. Due to the development of new technology, special changes are taking place in the field of information and communication technology (ICT) education. Print media and electronic media have an important role in the development of information and communication technology. The development and spread of educational technology has brought the following changes in the field of education-

1. Education can be obtained anytime and anywhere, this is the need of the hour. As a result of the development of educational technology, education has become accessible and accessible to all people. People living in villages and hilly areas also have opportunities to acquire education.

2. It is because of educational technology that it has become possible to obtain any type of information instantly.

3. The result of the development of information and communication technology is that people of one country can talk to subject experts of other countries and solve their problems.

Information and communication technology is being used successfully in the field of education. Due to this, the possibilities of taking education to new heights and getting education in various forms have increased. Apart from formal education, distance education, education through open school, online education, teleconferencing etc. Education can be obtained through it. Generally it can be seen that as far as technology is available, technology is being used in education to increase the spread and effectiveness of education.

With the development of print media, many new teaching methods have been added. New teaching methods are replacing the traditional Guru-Shishya tradition. Teachers do not use oral or lecture method, but use methods like internet, multimedia, teleconferencing, online etc. Teachers have started using white board or interactive board instead of chalk board. It is no longer necessary for the teacher and student to be face to face in the class. The learner is no longer a passive listener. Teachers take the help of various teaching methods and teaching technology so that the participation of learners in teaching learning situations can be ensured. Technology based teaching increases the ability of children to understand the subject matter. Also, the teacher is able to make the lesson interesting and present it clearly. Classes are student-centered rather than teacher-centered.

The impact of technological development is making the use of teaching aids more convenient. 20 years ago, radio was used as an audio medium, overhead projector and slides as visual medium, computer for calculation, typing and printing and for telephone communication. Different technologies were used to fulfill different purposes. But today all facilities can be obtained from a single portable device. Educational technology is bringing changes in the field of education in the following ways.

MULTIMEDIA

Multimedia helps in making the teaching learning process more effective. Through this, the subject matter can be presented through a single medium using audio, visual, written, graph, animation etc.

INTERNET

Internet is being used extensively in the field of education these days. Teaching material can be obtained from the Internet, conversation can take place between two people and exchange of information can take place. It is the main basis of distance education system. Many types of facilities are available on the Internet - email, chatting, literature related to various subjects etc.

E-MAIL

E-mail is basically an electronic medium of transmitting content. Messages can be sent to any person living in any corner of the world through e-mail. These messages can be in any form, written or picture. They are being used in both education and business fields.

TELE CONFERENCING

Tele conferencing is a type of electronic system in which two or more people sitting far away can participate in a discussion. They can say their point and listen to others and answer them and exchange necessary information:-

1. Audio Conferencing
2. Video Conferencing
3. Computer Conferencing

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