

# MODERNISATION OF TECHNOLOGY FOR TEACHER EDUCATION IN 21<sup>ST</sup> CENTURY

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## ABSTRACT

In order to make best use of our resources, it is essential that all persons engaged in the teaching profession understand the mechanics and dynamics of teaching technology. In the changing circumstances, this technology works like a pillar to assist a teacher in carrying out his responsibility, making education and teaching more useful and effective. Teaching technology is that science which enhances a teacher's effectiveness and enriches the teaching process still more. If we have to systematize teaching by the use of modern science and technological discoveries and scientific invention then educational technology will have to be promoted. In the present age, a modern teacher can not sustain without educational technology. Educational Technology has come to pervade all parts of the present times. Educational technology is no more formal, it has become active. The progressive changes occurring in the field of electronic technology. Besides, educational technology is proving useful in modifying and refining behaviours of teachers. Therefore, educational technology should be taken in the broad socio-academic context, only then it would be possible to evaluate its relevance correctly. Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technology processes and resources. Educational technology is the use of technology to improve education. It is a systematic, iterative process or training used to improve performance. Educational research always has an ambitious agenda. Sometimes it only aims at increased efficiency or effectiveness of current practice, but frequently it aims at pedagogical change. While it can be considered as a design science it also addresses fundamental issues of learning, teaching and social organization. Technology provides us with powerful tools to try out designs, so that instead of theories of education. We may begin to develop a science of education. Technology is therefore a tool and a catalyst and it can become a medium through which change can happen.

## Introduction:

Teaching is the communication of one's own personal experiences, it is the nature of teacher teaches. So it is essential to improve teacher's education programme for each needs stage be designed the context of children development and national goals. The quality and standard of an education system largely depends on the quality, characteristics and commitment of the teachers to the profession. It is essential for improving teacher education through a sound programme of professional education. Teachers are the vital part of the society. They act as the pivot for the transmission of intellectual traditions and technical skills from generation to generation. These skills may be developed by using technology in education. The development of technology is essential related to attempts to be rational and to effect greater efficiency.

Educational Technology can be conceived as a

science of techniques and methods by which educational goals can be realized. On the other hand, educational technology is the mechanization of educational process. It is possible to classify technology for education into two categories, one is systemic programmes and another is support/transport item. A systemic programme is conceived as a complete package on programme structured toward an end. Support/Transport items consist of technologies of support, such as projectors, transparencies or film and transport including CCTV, ITU and language laboratory. With the advancement of technology, the teacher had many devices which he could use to supplement the spoken word. A great variety of audio-visual materials enabled him to make concepts clear to the pupils. Pictures, Posters, Slides, Films and Filmstrips, Record Player and Tape recorder are some of these devices which are used when necessary to help the pupils understand what is taught.

Learning is enjoyable. It is adapted to individual differences. Programmed instruction is most effective in symbolic learning. This is an individual technique of instruction. In this technique material is presented in steps one after another in logical sequence.

Though it is helpful for teacher education but it has some limitations. Those are –

- | Programmed instruction is helpful in gaining learning but there is no provision for imparting experience in it.
- | Specialists are connected for constructing programmed instruction material, but they are not available in India in the desired number.

Programmed instruction has proved very useful in modern times. It is being applied in the following field successfully. They are in teacher training, in correspondence education and in educational technology.

Educational Technology can be classified in three distinct types. They are also known as approaches to educational technology.

- | Hardware Approach
- | Software Approach
- | System Approach

The Hardware, Software the methods and know how required or used in acquiring, storing, processing and displaying data and information is collectively known as Information Technology (IT). Also on other hand, developments and achievements in communication technology and programmes and the methods used to ensure transmission of message correctly, efficiently and cost effectively are collectively known as Communication Technology. Both IT and CT became complementary to each other and started moving together and a new term emerged named as Information and Communication Technology.

As a result of Hardware technology electro mechanical equipments have been developed which are used for instructional purpose. It has three areas, such as audio approach, visual approach and audio-visual approach. Radio, Tape recorder, Teaching machine are examples of audio approach. Visual approaches are Projector, Epidiascope, Film Strips, Slides, Computers and audio visual approaches are Film, Television and Video tape etc.

As a result of researches and experiments in the field of educational technology, several tools have come

into being which have helped to enrich instruction.

A Radio is an effective aid for oral communication which is linked to the world of education. Radio communication is considered to be an unparalleled vehicle for mass communication. However educational programs by radio have the disadvantage that they are propagated only through the spoken word.

A Tape Recorder can be used for making teaching more effective. Audio cassette draws the attention of students towards active and participant work they provide unique opportunities to listen to human voice and other sounds in communication, to play and replay parts as required to make learning more effective and enjoyable.

A filmstrip and film are used to impart knowledge about different processes, discoveries and other information related to education. A filmstrip or film imparts systematic, detailed and clear knowledge imparted through them is permanent and effective. However, too long films become boring and useless. While selecting a film, it should be kept in view that it should be related to the topic or content, it should be an integral part of education, its language, style and sound should be proper.

Today audio-visual aids are considered a powerful and important tool in the educational field. A Slide Projector is used to project slides on different topics. A slide is changed one after another. Modern slide projectors are also fitted with remote control by which they can be operated from distance and a good focus can be achieved.

An Epidiascope can be used to project a screen both transparent and opaque objects, which are displayed in their larger form. This equipment is a combination of episcopes and diascopes, so it is called epidiascope. Therefore it should not be used for long time. It should be put off after one object should be displayed after a little gap of time. In Overhead projector, a transparent visual is placed on a horizontal stage on top of light source. The light passes through transparency and then it is reflected at an angle on to the screen in back of the speaker.

A Filmstrip projector is used to project a filmstrip. This is mostly used to display transparent filmstrips. A teacher should read the instructions regarding the use of a filmstrip projector and should practice before actual execution. Film projector is also called

motion picture projector. In this projector are displayed different types of educational motion films.

Television is one of the major means of mass communication. It has rapidly elevated itself to the level of big business, and has become a very powerful medium. Technology, as a combination of sound and picture, it provides for the most effective temporal and spatial transmission of reality of its viewers. Like other audio-visual instruction, television is most effective in perceptual phases of learning.

The chief disadvantage is that it is a viewing and listening device only. While it is going on, no further action is possible. There can be no audience participation, no further action is possible. There can be no audience participation, no opportunity as with a book to pause and reflect on what has been said and notes are likely to be scanty because one must watch the picture. In case of CCTV, generally a programme for television telecast is recorded in a studio and then it is relayed with the help of a transmitter. The greatest contribution in this field is the computer. The field of education and instruction too have not remained untouched by it. Today computer assisted instruction system is an important achievement for the following purposes -

- Computer – assisted instruction (CAI)
- Computer – managed instruction (CMI)
- Computer-assisted learning (CAL)
- Computer as a simulator of complex situations (CSCS)

It appears difficult to imagine teaching without the use of a computer. On the other hand software approach uses the principles of psychology for the purpose of behavior modification. Both software and hardware approaches are so interlinked that they cannot be separated from each other. The system approach in educational technology has further opened innumerable ways and provided strategies for the improvement of the total process of education. The purpose of ICT in education is generally to familiarize of computers and related social and ethical issues. The web and the Internet is the core ICTs to spread education through e-learning. The components include e-portfolios, cyber infrastructures, digital libraries and online learning object repositories. It also facilitates interdisciplinary research. Use of ICT in education develops higher order skills such as collaborating across time and place and solving complex real

world problems. Impact of ICTs can be seen in the improvement of the quality of education by facilitating learning by doing real time conversation, delayed time conversation, directed instruction self learning problem solving, information seeking and analysis and critical thinking. The various kinds of ICT products available have relevance to education like teleconferencing email, audio conferencing, television lesson, radio broadcasts interactive radio counseling, interactive voice response system, audio cassettes and CD ROMs etc. It is the ultimate truth that the teacher is to be motivated and committed to adopt a variety of new techniques including the computer technology.

E-learning can play a critical role in preparing a new generation of teachers, as well as upgrading the skills existing teaching force to use 21<sup>st</sup> century tools and pedagogies for teacher development as part of a national strategy for educational and economical development. Its play important role in helping to meet the quantitative and qualitative demand for teachers. E-learning has many qualities that make it beneficial for teacher development. E-learning may start anytime, anyplace. It is collaborative and have pedagogical approach. It have content flexibility. But it has some limitations it has no self discipline and there is no face to face interaction and lack of flexibility.

### Conclusion:

In my view, teacher education needs to change in near future because many defects are found in our teacher education. Such as-artificiality in courses of studies including theory and practice.

- | Ineffective method of teaching.
- | Less emphasis on development of professional attitude.
- | No impact in school practice.
- | Poor academic background of student teacher.
- | Inadequate base of empirical research in various fields of teacher education. However, if teacher education in India follows its best tradition and is flexible and child centered there is years from their own teachers. Research directors, researchers, teachers and research scholars should pay attention towards these problems. Today's education is based on educational technology. It special attention is not paid towards research in technology, then our entire educational system would become weaker and the nation would not be able to tread on the path to progress. The doors of educational technology are open to every

researcher with invitation written on the forehead.

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