

## ▲ Concept and Definition of Educational Technology

Before understanding the meaning of ET, we will define the meaning of *education* and the meaning of *technology* separately.

*Education* is defined and used by many authors in different ways and different meanings are attributed to it. A definition of *education* would be:

'Education is the total process developing human ability and behaviour. It is the social process in which one achieves competence and individual growth carried on in a controlled social setting.'

According to the definition propounded by UNESCO, education is organized and sustained instruction designed to communicate a combination of knowledge, skill and understanding valuable for all activities of life.

The term *technology* can be defined as the study of materials – it is meant to apply science to create new objects and machines. Technology implies having a systematic approach. Therefore it has the following two meanings:

'It is a product or hardware that could be multi-media or mass media.'

'It is a process, a system design or a particular method that becomes the system design for planning and performing the task most economically and efficiently, with the given people, time, space, resources and money.'

When you put *education* and *technology* together, it does not mean imparting education through machines only. It could mean education through a machine or any other device—blackboard, map, chart, an experiment or a tour—but more than that, what is important in ET, is going through a method, a process or a system to make education fascinating and meaningful.

The essence of ET does not lie merely in machines—it is much more than that. It is a way of organizing patterns and the man-machine system. It applies tests of economic feasibility to the problems and is fundamentally concerned with the interaction of science, art and human values.

In 1967, the formation of a national council for educational technology by the department of education science (in the USA) recognized the official use of this term to synthesize various approaches such as audio-visual aids and programmed learning. In India too this concept has been changed and concepts such as teaching aids, etc. have been merged into 'ET'. The term has been officially defined by a number of bodies—the Council for Educational Technology in the UK; the US Commission on Instructional Technology, etc. ET has been defined as the development application and evaluation of systems, techniques and aids to improve the process of human learning.

Additionally, ET is defined as a systematic way of designing, implementing and evaluating the total process of learning and teaching in terms of specific objectives based on research in terms of specific objectives and communication, and employing a combination of human and non-human resources to bring about more effective instruction.

The key phrases in ET are appropriate technology or one that is appropriate to the task in hand for meeting specific educational objectives and the organization of all available resources into the workable system, which is checked repeatedly to ensure that it is appropriate and evolving. Formative evaluation and summative evaluation are essential parts of ET when applying the discipline of ET to the field of education. It is imperative that media choice must relate to instructional design as well as to what is available and usable.

If we study the development of education (theory and practice), we find that there is a tremendous change in the role of education as also in the procedure. It was felt by psychologists and also philosophers that education to the child should be imparted in an efficient manner. The psychological theory was to involve a requisite number of sense organs in the teaching-learning process. The other aspects of efficient learning were the application of laws of learning into practice. This has influenced the organization, presentation and evaluation of the subject matter and also influenced educators to adopt relevant techniques for implementation. All such attempts were reviewed and ET gradually replaced the older methods and techniques of teaching.

**Shiv K. Mitra:** “Educational technology can be conceived as a science of techniques and methods by which educational goals could be realized (Mitra, 1968:4).”

**S.S. Kulkarni:** “Educational technology may be defined as the application of the laws as well as recent discoveries of science and technology to the process of education (Kulkarni, 1969).”

**D. Unwin:** “Educational technology is concerned with the application of modern skills and techniques to requirements of education and training. This includes the facilitation of learning by manipulation of media and methods, and the control of environment in so far as this reflects on learning (Unwin, 1969).”

**W. Kenneth Richmond:** “Educational technology is concerned with providing appropriately designed learning situations which, holding in view the objectives of teaching or training, bring to bear the best means of instruction (Richmond, 1979).”

**I.K. Davies:** “Education technology is concerned with the problems of education and training context and it is characterized by the disciplined and systematic approach to the organization of resources for learning (Davies, 1971).”

**J.R. Gases:** “Education technology has to be seen as part of a persistent and complex endeavour of bringing pupils, teachers and technical means together in an effective way (Ford Foundation Team, 1971).”

**US President Commission of Enquiry:** “Education technology may be defined as a systematic way of designing, carrying out and evaluating a total process of teaching and learning in terms of specific objectives based on findings from research in human learning and communication (cited in, Tucker, 1979:159).”

**DES Working Party UK:** “Education technology is the development, application and evaluation of systems, techniques and aids in the field of human learning (cited in, Tucker, 1979:159).”

**Scottish Council for Educational Technology:** “Educational technology is systematic approach to designing and evaluating learning and teaching methods and methodologies and to the application and exploitation of media and the current knowledge of communication techniques in education, both formal and informal (cited in, Tucker 1979:160).”

An overview of the definitions listed here reveals that there exists wide differences of opinion regarding a particular definition of the term educational technology. These definitions initially encompass the whole range of educational technology activities from the analytic methods of psychology of learning and teaching to the audio-visual communication and mass media technology. The views propagated by these definitions may help us to conclude about the meaning and nature of educational technology as follows:

1. Educational technology is concerned with the systematic application of science and technology in the field of education and thus may be defined as the application of technology to education in order to further the cause of the latter.
2. Just as science and technology help in carrying out the practical task in general, educational technology helps in providing efficiency to the task of teaching and learning.