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Rajiv Gandhi University

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ELEMENTS IN EDUCATION

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ELEMENTS IN EDUCATION

BA [Education]

Second

Semester

RAJIV GANDHI UNIVERSITY

Arunachal Pradesh, INDIA - 791 112

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About the University

Rajiv Gandhi University (formerly Arunachal University) is a premier institution for higher education in the state of Arunachal Pradesh and has completed twenty-five years of its existence. Late Smt. Indira Gandhi, the then Prime Minister of India, laid the foundation stone of the university on 4th February, 1984 at Rono Hills, where the present campus is located.

Ever since its inception, the university has been trying to achieve excellence and fulfill the objectives as envisaged in the University Act. The university received academic recognition under Section 2(f) from the University Grants Commission on 28th March, 1985 and started functioning from 1st April, 1985. It got financial recognition under section 12-B of the UGC on 25th March, 1994. Since then Rajiv Gandhi University, (then Arunachal University) has carved a niche for itself in the educational scenario of the country following its selection as a University with potential for excellence by a high-level expert committee of the University Grants Commission from among universities in India.

The University was converted into a Central University with effect from 9th April, 2007 as per notification of the Ministry of Human Resource Development, Government of India.

The University is located atop Rono Hills on a picturesque tableland of 302 acres overlooking the river Dikrong. It is 6.5 km from the National Highway 52-A and 25 km from Itanagar, the State capital. The campus is linked with the National Highway by the Dikrong bridge.

The teaching and research programmes of the University are designed with a view to play a positive role in the socio-economic and cultural development of the State. The University offers Undergraduate, Post-graduate, M.Phil and Ph.D. programmes. The Department of Education also offers the B.Ed. programme.

There are fifteen colleges affiliated to the University. The University has been extending educational facilities to students from the neighbouring states, particularly Assam. The strength of students in different departments of the University and in affiliated colleges has been steadily increasing.

The faculty members have been actively engaged in research activities with financial support from UGC and other funding agencies. Since inception, a number of proposals on research projects have been sanctioned by various funding agencies to the University. Various departments have organized numerous seminars, workshops and conferences. Many faculty members have participated in national and international conferences and seminars held within the country and abroad. Eminent scholars and distinguished personalities have visited the University and delivered lectures on various disciplines.

The academic year 2000-2001 was a year of consolidation for the University. The switch over from the annual to the semester system took off smoothly and the performance of the students registered a marked improvement. Various syllabi designed by Boards of Post-graduate Studies (BPGS) have been implemented. VSAT facility installed by the ERNET India, New Delhi under the UGC-Infonet program, provides Internet access.

In spite of infrastructural constraints, the University has been maintaining its academic excellence. The University has strictly adhered to the academic calendar, conducted the examinations and declared the results on time. The students from the University have found placements not only in State and Central Government Services, but also in various institutions, industries and organizations. Many students have emerged successful in the National Eligibility Test (NET).

Since inception, the University has made significant progress in teaching, research, innovations in curriculum development and developing infrastructure.

SYLLABI-BOOK MAPPING TABLE

Elements of Education

Syllabi	Mapping in Book
Unit-I Instincts and Emotions Meaning and Definition of Instinct; Instincts According to McDougall; Meaning and Definition of Emotion; Classification of Emotions, Theories of Emotion–(i) Central Theory of Emotion, (ii) The James Lange Theory of Emotion; Educational Utility of Instincts and Emotion\	**Unit 1:** Instincts and Emotions
Unit-II Educational Technology Meaning, Nature and Scope of Educational Technology	**Unit 2:** Educational Technology
Unit-III Educational Sociology Meaning, Nature and Scope of Educational Sociology; Social Development and Education; Social Factors in Education; Socialization	**Unit 3:** Educational Sociology
Unit-IV Educational and Social Change in India Modernization and Education; Agricultural, Industrial and Technological Developments; National Integration; International Understanding	**Unit 4:** Educational and Social Change in India

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UNIT 4 EDUCATIONAL AND SOCIAL CHANGE IN INDIA

INTRODUCTION

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Education is an effort of the senior people to transfer their knowledge to the younger members of the society. Emile Durkheim defines education as 'the influence exercised by the adult generation upon those who are not yet ready for adult life.' He further maintains that 'society can survive only if there exists among its members a sufficient degree of homogeneity. The homogeneity is perpetuated and reinforced by education. A child through education learns basic rules, regulations, norms and values of society.'

Education is an essential prerequisite of modernization. It enables people to know the world beyond their own surroundings and transforms them to become rationalist and humanist in outlook and world view. However, it has to be kept in mind that education has got modernized and in turn is contributing to the process of modernization of the Indian society.

Modern education is open and liberal. The course contents are rational and in tune with the needs of the present-day society. The modern education lays emphasis on subjects like freedom, nationality, law, human rights, democracy and scientific world view. The other parts of education are the co-curricular and extra-curricular activities, which are often organized for total personality development of a student.

This book, *Elements of Education*, has nine units. The book deals with the concept and aims of education. It also deals with the Indian educational structure and policy. The book covers the importance of instincts and emotions in the field of education. It also has a unit on the educational and social change in India.

This book, *Elements of Education*, has been designed keeping in mind the self-instruction mode (SIM) format and follows a simple pattern, wherein each unit of the book begins with an *Introduction* followed by the *Unit Objectives* for the topic. The content is then presented in a simple and easy-to-understand manner, and is interspersed with *Check Your Progress* questions to reinforce the student's understanding of the topic. A list of *Questions and Exercises* is also provided at the end of each unit. The *Summary* and *Key Terms* further act as useful tools for students and are meant for effective recapitulation of the text.

UNIT 1 INSTINCTS AND EMOTIONS

Structure

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INTRODUCTION

Instinct or innate behavior is the inherent inclination of a living organism towards a particular complex behavior. The simplest example of an instinctive behaviour is a fixed action pattern (FAP), in which a very short to medium length sequence of actions, without variation, are carried out in response to a clearly defined stimulus. Instincts play a significant role in our life. They affect our conduct as well as the behaviour.

The development of emotions is extremely important for the harmonious development of personality of an individual. Emotions influence all the aspects of an individual's personality. Proper training and education helps to enable the young people to control their emotions and obtain mental balance and stability. Emotions are the prime forces of thought and conduct and their control is very important. It has been rightly said, 'to keep one's emotions under control and be able to conceal them is considered a mark of strong character'. In this unit, you will read about instincts and emotions.

UNIT OBJECTIVES

After going through this unit, you will be able to:

- State the meaning and definition of instinct and emotion
- Explain McDougall's theory of instinct
- Describe classification of emotions
- Discuss the theories of emotion
- Explain the role of emotions in education

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INSTINCT: MEANING AND DEFINITION

Instinct is what we call innate behaviour and it is a living organism's inherent inclination to a specific complex behaviour. A behaviour will be considered instinctive when it is performed even without having any basis of any prior learning of experience. Therefore, it is considered to be expressing innate, biological factors of a living being. Instincts are inborn complex patterns of behaviour that exist in most members of the species, and should be distinguished from reflexes, which are simple responses of an organism to a specific stimulus, such as the contraction of the pupil in response to bright light or the movement of the lower leg when the knee is tapped.

According to *Encyclopaedia Britannica*, it is '…an inborn impulse or motivation to action typically performed in response to specific external stimuli. Today instinct is generally described as a stereotyped, apparently unlearned, genetically determined behaviour pattern.'

Ross defines instinct as, 'An inherited or innate disposition which determines its possessor to behave in a certain specific way in relation to certain specific objects.'

C. W. Valentine states that instincts are, 'Some innate tendencies to notice and be interested in certain kinds of impressions and to act in response to them in a way not prompted by experience.'

In the words of William James, 'Instinct is usually defined as the faculty of acting in such a way as to produce certain ends, without foresight of the ends and without previous education in the performance.'

Over the past, instinct as a term has been used for various distinct conceptions associated with animal behaviour. In the 1st volume of *A Dictionary of Mechanical Science, Arts, Manufactures, and Miscellaneous Knowledge* (1829), Alexander Jamieson defined instinct to be 'an appellation given to the sagacity and natural inclinations of brutes, which supplies the place of reason in mankind.'

For instinctive behaviour, the most basic example would be some fixed action pattern (FAP), that would have extremely short to medium length action sequences, without variation, conducted as a response to a stimulus that is clearly defined.

Instincts can be looked upon as being complex, inborn behvioural patterns which most members of a species possess. These are not reflexes. A reflex is nothing more than a response that an organism displays to a particular stimulus, like jerking back of hand when it comes in contact with something hot. We must not confuse the non-presence of volitional capacity with lack of ability to change fixed action patterns. Consider an example: it is possible that people change or modify a stimulated fixed action pattern while recognizing consciously at what point it gets activated and then just stopping to do that. But for animals who do not have a strong volitional capacity, it might not be possible to disengage themselves from their fixed action patterns, after they get activated.

1. Instinct in biology

Entomologist Jean Henri Fabre is of the opinion that instinct is any such behaviour for whose performance there is no need for consciousness or cognition. Fabre got his inspiration from the vast and intense study that he had conducted with insects, and the behaviour of some of these insects he erroneously took to be not influenced by changes in climate but to, rather, be fixed.

It was during the 1920s that the concept of instinct fell out of favour. This was because behaviourism was gaining ground and thinkers like B. F. Skinner were of the

opinion that most of the behaviour which is in any way significant is learned behaviour. Beliefs, like the one put forth by Fabre which said that most behaviours were simply reflexive and too simplistic in nature to be able to explain complex social and emotional behaviour of human beings.

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Again, during the 1950s, there was re-emergence of interest in innate living beings. It came about due to Konrad Lorenz and Nikolaas Tinbergen, who brought out the distinction between learned behaviours and instinct. The understanding that we have in the current times of instinctual behaviour in animals, largely stems from the work done by the two of them. For example, Konrad Lorenz got his boots imprinted by a goose. Then on, the goose began to follow the boots, no natter on whose feet they were. While the identity of the goose's mother was a learned one, yet the behaviour of the goose with respect to the boots was instinctive.

2. Instinct in psychology

It was in the 1870s that the field of psychology made use of the term 'instinct'. The first one to use it was Wilhelm Wundt. As 19th century came to a close, it was accepted that behaviour that was repeated was instinctual behaviour. The literature written during that period shows that more than 4000 instincts related to human beings were recorded by researchers and they used the term 'instincts', to mean any and every repetitive behaviour. With terms taking on definite meaning and research becoming more thorough, researchers looked at instinct as an explanation for human behaviour. In 1960, a conference was held which was chaired by Frank Beach, a pioneer in comparative psychology, and in attendance were several luminaries of the field. During this conference, the term instinct was officially restricted in its application. Through 1960s and 1970s, textbooks did carry discussion on instincts with reference to human behaviour. A survey made of the books of the year 2000, showed that of the 12 best selling textbooks on Introductory Psychology, there was just one that made a reference to instincts, and this reference was also with respect to Sigmund Freud's referral to the *id* instincts. In this respect, it would appear that instincts is now looked upon as becoming more and more superfluous when one tries to understand psychological behaviour of human beings.

It was argued by psychologist Abraham Maslow, that human beings do not have instincts now as humans have developed an ability to override instinct in certain situations. According to him, that which is referred to as instinct is at times defined imprecisely, and is in most cases not strong drives. Maslow believed that it is not possible to override instinct, and in that respect, though the term could be applicable to human beings in the older times, today it does not hold good.

The 1961 book named *Instinct* was the one that instituted several criteria which would create distinction between instinctual and behaviours of other types. For a behaviour to be seen as instinctual, it needs to be the following:

- Automatic
- Irresistible
- Occur at some point in development
- Be triggered by some event in the environment
- Occur in every member of the species
- Be unmodifiable
- Govern behaviour for which the organism needs no training (although the organism may profit from experience and to that degree the behaviour is modifiable).

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Reflexes and instinct

If we search, for examples, behaviours which does not need conscious effort, will be looking at several reflexes. For a reflex, the stimulus might not need activity from the brain, but it might go all the way to the spinal cord in the form of a message which then will be sent back through the body, creating a path that is referred to as reflex arc. We can look at reflexes as being similar to fixed action patterns (FAP) since majority of the reflexes meet the criteria of a FAP.

Nevertheless, in the case of a fixed action pattern, it is also possible for the brain to process it. An example of this is the instinctive aggression during the mating season of a male stickleback for all things that are red. In humans, some instinctive behaviours are of primitive reflexes, like suckling and rooting.

Maturational instincts

There are some instinctive behaviours which are dependent on the onset of maturational processes. To take an example, there is reference to birds 'learning' to fly. Nevertheless, there have been experiments in which young birds were reared in such a manner with devices which prevented them from moving their wings, right up to their attaining the age at other birds of their species. The birds being experimented were able to immediately fly normally when they were set free, displaying that it was not learning, but neuromuscular maturation to which we must attribute their improvement.

3. Instinct in evolution

Imprinting is an example of instinct. Imprinting is seen as a complex response which combines in itself olfactory, auditory and visual cues present in the environment which surrounds an organism. There are cases in which an offspring is attached to its parents by imprinting, and this is considered as being a reproductive benefit for survival of offspring. For an offspring who has parental attachment, will stay close to the parent and will, therefore, be under the care and protection of the parent. Offspring who are attached to a parent have greater chances of learning from the one they are attached to since they have close interaction with that parental figure.

An important factor that greatly affects how innate behaviour will evolve is environment. Michael McCollough, a positive psychologist, in one of his hypothesis provides that some human behaviours like revenge and forgiveness are greatly affected by the role played by environment. In this hypothesis, he theorizes that in the various social environments, human behaviour will be moulded as having either revenge or forgiveness as the prevalent trait. Even though this game theory's psychological example does not comprise any real results that are directly measurable, it does put forth an interesting theory of unique thought. If it is looked at with a standpoint that is more biological, the limbic system is the main control area for response to certain stimuli, which includes a variety of instinctual behavior. It is in the limbic system that the processing is done for external stimuli related to motivation, social activity and emotions, which transmits a behavioral response. Some of the behaviours would be social hierarchy, defense, aggression and maternal care. All of these behaviours are affected by the various sensory input like smell, touch, sound and sight.

There are many angles that can be used to investigate the phenomenon of instinct. Some of these angles are: environment, nervous pathways, limbic system and genetics. There exist several levels of instincts, right from molecular to groups of individuals, which are possible to study. There has been the evolution of systems that are extremely specialized

and have created such individuals who display behaviours that they have not learned. It is true that innate behaviour is the biological world' one such aspect which is both interesting and important and with which people come in contact with on a daily basis.

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INSTINCTS ACCORDING TO McDOUGALL

William McDougall, born on 22 June 1871 and died on 28 November, 1938 was a psychologist who was opposed to the concept of behaviorism. He remained on the outside of the mainstream of the development of Anglo-American psychological thought during initial years of 20th century.

William McDougall was probably the most influential advocate of instinct as far as the discipline of psychology is concerned. His work, titled *Introduction to Social Psychology* (1908), is looked upon as being amongst the first textbooks of social psychology. In this work, William McDougall used a concept of instinct as being the basis of a highly comprehensive and persuasive theory of behaviour. This theory has the credit for having provided two distinct achievements: it has created an elegant and novel amalgamation of the subject matter of psychology and based on biological principles, it has managed to provide to psychology the status of a natural science. For this purpose, the biological principles that have been employed belong to Darwinism. At the very core, the thinking of McDougall regarding instinct was the conception that considered instincts to be systems that were hereditary and has unitary behaviour and their driving force lay in the internal goal-directed impulsions. McDougall added on the then exiting traditional (particularly Kantian) concept of the three part division of mind containing the faculties of willing, feeling and knowing. His definition of instinct was, 'an inherited or innate psycho-physical disposition which determines its possessor to perceive, and to pay attention to objects of a certain class, to experience an emotional excitement of a particular quality upon perceiving such an object, and to act in regard to it in a particular manner, or, at least, to experience an impulse to such action' (McDougall 1908, p. 25 in the 1936 edition).

In his theory, instincts are composed of three parts: perception, behaviour and emotion. Human beings have a perceptual predisposition to focus on stimuli that are important to his goals. For example, people pay attention to food odours when hunger instincts are involved. McDougall listed seventeen instincts in 1932, including hunger, rejection of particular substances, curiosity, escape, pugnacity, sex, maternal/paternal instinct, gregariousness, self-assertion, submission, construction, acquisition, crying out or appeal, laughter, comfort, rest or sleep, and migration.

A tripartite division of neurophysiological systems was also in existence at that time and McDougall took that division to fit in with his own as the obvious step of locating the cognitive aspect (knowing) of instinct in sensory pathways, the affective aspect (feeling) in associative pathways, and the conative aspect (willing) in motor pathways. Therefore, the connections that existed amongst an instinct's three parts were looked upon as being neural, but according to McDougall the dynamics of instinct, unlike in the case of reflexes, were not completely mechanical. William McDougall was insistent in his belief that instinct was a system that was psychophysical by nature, meaning that in the process of determining of any instinctive action a huge role is played by mental phenomena, such as impulse, awareness and the awareness of feeling.

Check Your Progress

1. What are instincts?
2. How is instinct different from reflex?

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With respect to instinct, William McDougall advocated that instincts hold the ability to be moulded and changed during an individual's life time, but only within limits and these limits will vary from one species to another. Nevertheless, this possibility of modification due to the various experiences that a living organism has, is limited to only to conation and cognition (1908, p. 29 in the 1936 edition). Therefore, identification of the distinct primary emotions is one valid method of discovering what, and how many instincts there are. William McDougall is of the opinion that it is necessary to have this kind of analysis of instincts prior to being able to make any significant progress in the understanding of the nature of complex secondary or derived patterns of mental phenomena or behaviour. McDougall put forth a list of all that which was considered by him to be the primary emotions and, therefore, the principal instincts in human beings. He made use of the Darwinian principles to justify the list he had created by reference to each of those instincts' probable adaptive significance, and hence evolutionary basis.

The success that McDougall achieved made instinct a thing of significance and possibly also fashionable, and it did the same for several other psychology related Darwinian ideas. In psychological writings the lists of instincts multiplied manifold, this concept rooted itself in several other fields also, like in the study of wars and in economics. Nevertheless, with the multiplication of the lists there was a parallel multiplication in the variety of the lists. Writers began to use their own criteria for the basis of the lists and these could be like the characteristic behaviour patterns of a number of species, purposive behaviour patterns, primary emotions, to name a few.

It is opined that it was William McDougall himself and his practice which was responsible for such a vague and indiscriminate application of instinct against which he himself has put forth strong argument in his own book's introduction. McDougall's theory suggested that other than reflex, each and every behaviour is instinctive or at least its very basis lies in instinct. Furthermore, the concept of instinct as per McDougall seemed to make a bridge available between a minimum of two types of explanation of behavior: explanation in terms of intentions and actions and explanation in terms of causes and effects.

EMOTION: MEANING AND DEFINITION

Emotion can be defined as a feeling, an aspect of consciousness characterized by a certain physical arousal, a certain behaviour that reveals the feeling to both the outer and the inner world. Emotions can be pleasant as well as unpleasant, when we are angry and afraid we get an unpleasant feeling, when we are delighted we get a pleasant feeling. There are the following aspects to emotions:

- **Cognitive aspects:** These emphasize the importance of cognition and thinking in the determination of emotion.
- **Physiological aspects:** When we experience any emotion, there is an arousal created by the sympathetic nervous system; for example, the heart rate increases, breathing becomes more rapid and the pupils dilate.
- **Behavioural aspects:** The behaviour of a person also changes, like there are facial expression, body movement and actions that indicates the feelings of a person.

Expression of Emotion

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We reveal our felt emotions in bodily responses and express behaviour. Facial expression—frowns, smiles and sad expression—combined with hand gesture—the turning of one's body—and spoken words produce an understanding of emotion. We fight, run, laugh, yell, along with countless other action stemming from the emotions we feel. There are individual differences found in the expression of emotions. The expression of the emotions not only communicates, but also intensifies the felt emotion. It also activates the body to respond accordingly. In India, the expression of emotions was introduced by sage Bharata during the 5th century. Eight major emotions were described in *Natyashastra*. Later, they were translated into 'rasa', which means aesthetic relish. Now, we will discuss the important forms of emotional expression.

Each emotion has its characteristic facial expression. Facial expression can vary across different cultures, although some aspects of facial expression seem to be universal. Charles Darwin (1998) was one of the first to theorize that emotions were a product of evolution and, therefore, universal; all human beings, no matter what their culture, would show the same facial expression because of the facial muscles evolved to communicate specific information to onlookers. Researchers believe that although the facial expressions appear to be universal, exactly when, where and how an emotion is expressed may be determined by the culture. There are display rule which vary from culture to culture (Ekman, 1973).

According to the facial feedback hypothesis, expressions can reflect emotions as well as influence them. Facial muscles signal the brain that helps us in recognizing the emotion we are experiencing (Keillor and others, 2002). For example, we feel happier when we smile and sadder when we frown. Support for this hypothesis comes from an experiment by Ekman and his colleagues (1983). Following are the key forms of emotional expressions:

- **Facial expressions:** Every emotion has its characteristic facial expression. The nose, lips, eyes and forehead take different forms by twitching and twisting. Three dimensions of emotional expression are shown by the facial expressions.
  - **Pleasantness-unpleasantness:** Facial muscles evolve to communicate specific information to onlookers. For example, happy face expresses the feeling of smile and laughter; whereas, sad face represents the expression of unpleasant feeling.
  - **Attention-rejection:** Attention in the facial expression is shown through the muscles as they expand, like the eyes and the mouth opens up. Contraction of eyes, lips, and nostril are the best example of rejection.
  - **Sleep-tension:** Level of relaxation depicts through sleep condition where as angry and excitement represents tension.
- **Startle response:** Alarm reaction or startle reflex, is the body's and mind's response to an unexpected and sudden stimulus, like a loud noise (acoustic startle reflex), a flash of light and a sudden movement near the face. Our reactions include physically moving away from the stimulus. These reactions could be contraction of the arm and leg muscles and often blinking. It also includes breathing changes and blood pressure respiration. This is an inborn response.
- **Vocal expressions:** Emotion also expressed with the help of voice, trembling and breaking of voice can be noticed when we are sad or upset. We groan when we are in pain and become loud and high-pitched when we are angry.

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- **Gestures and postures:** The postures and gestures that we display show joy and sorrow and they are different in both the cases.. In sorrow the face slumps down while in happiness we hold the head high and have an upright posture. When we are angry, we show an aggressive behaviour and in fear we are either rooted to the spot or run from it.

Dimensions of Emotion

Robert Plutchik (1980) believes emotions have four dimensions, which are as follows:

(i) They are positive or negative

(ii) They are primary or mixed

(iii) Many are polar opposites

(iv) They vary in intensity

Let us take an example. Let us think about the ecstasy when we get an unexpected 'A' in a test or our enthusiasm about a football game the next weekend—these are positive emotions. In contrast, we feel negative emotion, like grief, when someone close to us dies, or anger when someone verbally attacks us. Positive emotions enhance our self-esteem; negative emotions lower our self-esteem. Positive emotions improve our relationships with others; negative emotions depress the quality of those relationships.

Plutchik believes that emotions are like colours. Every colour of the spectrum can be produced by mixing the primary colours. Happiness, disgust, surprise, sadness, anger, and fear are candidates for primary emotions. Combining sadness and surprise produces disappointment. Jealousy is composed of love and anger. Plutchik developed the emotion wheel to show how primary emotions adjacent to each other produce other emotions. It must be noted that some emotions are opposites—love and remorse, optimism and disappointment. Theorists, such as Plutchik, view emotions as innate reactions that require little cognitive interpretation—an evolutionary perspective.

Classification of Emotions

Emotions can be classified into two broad dimensions—adaptive/positive and disruptive/negative. Positive affectivity (PA) refers to positive emotions, such as joy, happiness, love, and, interest. Negative affectivity (NA) refers to negative emotions, such as anxiety, anger, guilt, and sadness. Positive emotions facilitate approach behaviour (Davidson, 1993; Watson, 2001; Watson and others, 1999). In other words, positive affect increases the likelihood that individuals will interact with their environment and engage in activities that are adaptive for the individual, its species, or both. Positive emotions can broaden people's horizons and build their personal resource. For example, joy increases by creating the urge to play, push limits, and be creative, interest broadens by creating the motivation to explore, absorb new information and experiences, and expand the self (Csikszentmihalyi, 1990; Ryan and Deci, 2000).

There is increasing interest in the role that positive affectivity might play in wellbeing (Frederickson, 2001); for example, positive emotions appear to improve coping. In one study, individuals who experienced more positive emotions than others developed broad-based coping strategies, such as thinking about different ways to deal with a problem and step back from the situation and being more objective (Frederickson and Joiner, 2002). In some cases, positive emotions—such as joy, happiness, love, and interest—may override, or undo the lingering effects of negative emotions—such as sadness, anger, and despair (Diener, 1999; Fredrickson, 2001). For example, mild joy and

contentment have been found to undo the lingering cardiovascular effects of negative emotions, such as sadness (Frederickson and Levenson, 1998). To sum it all, positive emotions are likely to serve important functions in an individual's adaptation, growth and social connection. By building personal and social resources, positive emotions improve people's wellbeing.

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One aspect of positive emotion that is increasingly being studied is happiness. Psychologists' interest in happiness aims at the positive ways in which we experience life, including cognitive judgments of our well-being (Diener, Lucas, and Oishi, 2001; Locke, 2002). In other words, psychologists are trying to find out what makes us happy and how we perceive our happiness. Recent research reviews indicate that the following factors are linked with happiness (Diener and Seligman, 2002; Diener and others, 1999):

- Psychological and personality characteristics, like high levels of self-esteem, optimism, extraversion, and personal control
- A supportive network of close relationships
- A culture that offers positive interpretations of most daily events
- Being engaged by work and leisure
- A faith that embodies social support, purpose, hope, and religious attendance

The importance of close relationships in happiness was documented in a recent study of what makes college students happy (Diener and Seligman, 2002). College students were divided into three groups, viz., very happy, average, and very unhappy. The very happy college students were highly social, were more extraverted, and had stronger romantic and social relationships than the less happy college students.

Negative emotions, such as fear, facilitate withdrawal behaviour and thus carry direct and immediate adaptive benefits in situations that threaten survival. Positive emotions tend to broaden a person's attention; negative emotions, such as anxiety and depression often narrow attention even in no threatening situations (Basso and others, 1996).

Characteristics of emotions

The chief characteristics of emotions are as follows:

- The emotional experiences are associated with some instincts or biological drives.
- Emotions, in general, are the product of perception.
- The core of an emotion is feeling, which is essentially linked with some sort of urge or impulsive act to do. There is only a difference of degree between feeling and emotion.
- Every emotional experience involves several physical and psychological changes in the organism. Some of these changes like the bulge of the eyes, the flush of the face, flow of tears and pulse rate can be easily observed. There are also internal physiological changes like circulation of blood, the impact on the digestive system and the changes in the functioning of some glands.
- Emotions are frequent.
- Emotions are expressed in relation to the concrete objects or situations.
- Emotions are temporary.
- Emotional expressions in early childhood are intense irrespective of the intensity of the stimulus. Small children fail to hide their emotions and express them indirectly

Check Your Progress

3. What is emotion?
4. What are the two dimensions of emotion?

NOTES

through different activities like crying, nail-biting, thumb-sucking and speech difficulties.

- Emotions are prevalent in every living organism.
- Emotions are present at all stages of development and can be aroused in young as well as in old.
- Emotions differ from person to person.
- Same emotion can be aroused by a number of different stimuli objects or situations.
- Emotions rise abruptly but die slowly.
- Emotions are subject to displacement. The anger aroused on account of one stimuli gets transferred to other situations. The anger caused by the rebuking of the officer to his/her subordinate may be transferred in beating the children at home
- One emotion may give rise to a number of likewise emotions.

Simple and complex emotions

Grief and joy are examples of simple types of emotions while love and hate are complex types of emotions.

Grief is an emotional state that you find yourself in when your desires are not fulfilled. Contraction of the chest, tears, crying, fainting, and sobbing are some of the expressions of the emotional state of grief.

Joy is the opposite of grief. Joy is reflected by expansion of chest, lighting up of face, dancing and clapping. It is the state caused by the fulfillment of your desires. Success after conflict brings joy.

Love is a complex emotional state. It is a combination of sympathy, affection and sexual feelings. It is sometimes manifested as a permanent emotional tendency as in the case of a mother's love for her child. It is also transformed into a sentiment.

Hate is also a complex emotional state. It includes anger, fear and apathy. You become angry when you see a person you hate. Sometimes, you are afraid of them and want to stay away from them.

Internal bodily changes during emotions

During strong emotions, many changes occur in the body. These changes are interesting and help to explain many of the varied reactions that the emotionally aroused person displays.

- **Change in heartbeat:** The heartbeat increases when we are agitated and also when we are excited. Generally, the heart beats faster or slower if the individual is disturbed. The face is flushed or the blood shoots up in anger, because the alternate contraction and expansion of the blood vessels sends an excess of blood to that part of the body.
- **Blood pressure changes:** Blood pressure increases because of emotions. In some cases of shock, fear, and excitement, the blood pressure may also go down. The volume of blood, in case of extreme situations, also goes up as the large arteries contract driving blood towards the skin. The resulting flush is one of the signs of emotion.

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- **Change in galvanic skin response:** There are significant changes in the electrical or galvanic skin responses. The hair tends to stand on end causing goose flesh. The sweat glands of the skin secrete excessive amounts of perspiration or the well-known cold sweat. The additional acid changes the galvanic or electric response of the skin.

  Unlike the sweat glands, the salivary glands are inhibited by emotion. The saliva is not secreted which results in a dry mouth feeling when a person is emotionally disturbed.

- **Chemical changes in the blood:** Due to a change in emotional state, the secretion of adrenaline takes place from the adrenal gland, which puts more sugar in the blood. There is more sugar in the urine also. Adrenalin makes the heart beat faster, makes the liver release sugar into the blood for muscular energy and increases the ability of the blood to clot quickly. Thus, it actually reinforces all of the other effects.

- **Changes in respiration rate:** We all must have experienced that when we are extremely excited, we run out of breath. When a person is very sad, he or she cries and after some time, starts feeling breathless. Thus, emotions cause changes in the rate of respiration.

- **Metabolic changes:** Digestion process also changes because of emotions. Many studies have proved that under the current of emotions, our stomach and intestine work quite slowly and sometimes even become inactive. Secretion of digestive glands, including saliva, is also decreased resulting in the malfunctioning and inactivity on the part of digestive system. That is why extremely emotionally charged individuals are mostly found to suffer from the malfunctioning of their digestive system.

External physical changes

The emotions can be assessed on the basis of external physical changes. When we are extremely happy, our face lights up but when we are in grief, our eyes are filled with tears.

- **Facial expression:** When under the influence of emotion, the facial expression of a person is the first to be altered. Crying, smiling, compressing the lips wrinkling the nose, shaking head from one side to another are emotional responses which actually reveal the presence of particular feelings in a person. It is commonly said that every emotion has its own particular facial expression. While the way of expressing emotions may vary from culture to culture, some expressions remain common throughout. For example, we frown when we are angry and smile when we are happy.

- **Vocal expression:** Emotions are also expressed through voice. If a person is angry, his or her voice is different from the person who is expressing his or her love. Thus, emotions can be distinguished by hearing one's voice. Laughing, weeping, whistling, murmuring, hesitation, talking in sweet and loving manner actually reflect various types of emotions a person is experiencing. However, it is not always a reliable method of assessing the emotions.

- **Postural expression:** When a person is emotionally aroused, the facial expressions and voice change. Also, when a person is afraid or frightened of something, he or she trembles, hides or runs away. Rubbing hands, standing erect, sitting with head down are all indicative of some emotional state.

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- **Polygraph or lie detector:** Most of the bodily functions that occur because of some emotional state cannot be controlled by the will of an individual. The inner bodily functions cannot be changed by a person. Thus, it can be deduced that the most reliable sign of an emotional state is the body changes. A machine called polygraph has been devised to detect the slightest variation in blood pressure, pulse rate, breathing rate and skin electricity. This machine is called polygraph because it plots a graph of each of these varying parameters. It has the ability to detect mild degrees of emotion. It is used as a lie detector because it is believed several bodily changes occur when a person is lying. The people who tell lies do so out of fear. In this condition, the heart beats faster, adrenalin is secreted into the blood, the skin flushes, the mouth becomes dry, the skin sweats and the blood pressure shoots up. The polygraph does not actually detect whether a person is lying or not, it measures physiological changes that occur because of lying.

The method adopted in conducting a polygraph test is as follows. First, the subject is asked certain questions in a relaxed manner. These questions serve as the basis of assessing other responses. The examiner conducting the polygraph test frames two types of questions; one type of questions is neutral while the other type of questions is critical. It is found that if the subject is guilty, then the physiological changes occur in relation to the responses to critical questions.

Though the polygraph machine is used as a lie detector, it is not fully reliable. If an individual becomes very nervous while answering questions, then he or she is not actually lying.

Effects of Emotions

Emotions have a profound effect on the life of an individual. They can make or mar one's life. There are two types of effects of emotions which are described below.

Good effects of emotions

- **Source of motivation:** Emotions work as motives which drive the organism for an action. Love, fear, anger and curiosity may help us to achieve our goal. Classical stories are evidences when young men sacrificed their lives for their beloved. Fear of failure motivates one to study hard for the examination. Emotions prove a motivating agent to further our action towards goal.
- **Source of enjoyment:** Pent-up emotional feelings and routine activities create monotony in the individual. Emotions, particularly positive, add enjoyment in our life. They add excitement. Adolescents read novels and watch movies, theatres and TV, which overcome the deficiency of emotional excitement.
- **Source of strength and endurance to body:** Emotions give strength to our body. An individual can do unusual work under emotional excitement which appears difficult in normal conditions. For example, an individual chased by a dog can jump a 5 feet high wall which he cannot jump in normal conditions. Emotions give strength and endurance to our body. Fatigue does not set in during the emotional state. If a child loves his subject, he can work hours together without any sign of fatigue.
- **Media of communication:** Emotions serve as an effective media of communication between individuals.

Bad effects of emotions

The most damaging effect of emotions is on the physique of the individual. Constant emotional tension may cause lack of sleep, restlessness, headache, chronic fatigue, insomnia and lack of appetite.

Kuhlen in 1952 conducted research on the effects of continuous emotional tension. It also affects the memory. Forgetfulness increases in emotional state. The individual cannot reason, think and concentrate on a problem. Constant emotional pressure disturbs learning ability. Fear and anger cause the most powerful effect on thought process—moodiness and irritability. They bring change in our attitudes towards life. Negative emotional experiences for a long period disturb the total personality of an individual and may lead to neuroticism.

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THEORIES OF EMOTION

There are various theories of emotions. The most well-known among those are discussed in the following sections.

James-Lange Theory

James-Lange theory of emotion was developed after the name of the psychologist William James and the physiologist G. G. Lange (1884–1894). According to this theory, the perception of an object is followed by the disturbed bodily activities and the bodily activities are followed by the confused sensation. A person becomes aware of this sensation in a state of fear and anger. James has pointed out that we do not run because we are afraid, we are afraid because we run; for example, the fear of snakes is not immediately followed by the fear of a snake. The perception would first produce the activity of jumping or running, together with some other activities inside the body like rapid blood circulation or quick breathing. These activities stimulate the receptors that lie inside the body—the kinesthetic receptors and the organic receptors. Influences from these receptors reach the brain and produce mass kinesthetic and organic sensation. This mass sensation constitutes our experience of fear. Thus, the state of fear, anger, or other emotions that a person experience, according to this theory, is a confused mass sensation produced by the disturbed activities of the organism.

What about people who have spinal cord injuries that prevent the sympathetic nervous system from functioning? Although James-Lange would predict that these people should show decreased emotion. The arousal studies of people with spinal cord injuries report that these people are capable of experiencing the same emotions after their injury as before, sometimes even more intensely (Bermond et al., 1991; Chwalisz et al., 1988).

Cannon-Bard Theory of Emotion

Physiologists Walter Cannon (1927) and Philip Bard (1934) theorized that the emotion and the physiological arousal occur more or less at the same time. Cannon, an expert in sympathetic arousal mechanisms, did not feel that physical changes caused by different emotions were distinct enough to allow them to be perceived as different emotions. Bard expanded on this idea by stating that the sensory information that comes into the brain is sent simultaneously (by the thalamus) to both cortex and organ of sympathetic nervous system. The fear and the bodily reactions are, therefore, experienced at the

Check Your Progress

5. What are the two main types of emotions? Give examples.
6. State any two good effects of emotion.

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same time—not one after the other. For example, a person is afraid and running and aroused.

This theory, also had its critics. K. S. Lashley (1938) stated that the thalamus would have to be pretty sophisticated to make sense of all the possible human emotions and relay them to the proper areas of the cortex and body. It would seem that other areas of the brain must be involved in processing emotional reactions. The studies of people with spinal cord injuries, that seemed to suggest that emotions can be experienced without feedback from the sympathetic organs to the cortex and cited as a criticism of the James-Lange theory, seemed at first to support the Cannon-Bard version of emotions. People do not need feedback from those organs to experience emotion. However, there is an alternate pathway that carries information from these organs to the cortex; this is the vagus nerve—one of the cranial nerves (LeDoux, 1994). This makes the case for Cannon-Bard a little less convincing.

Two-Factor Theory of Emotion

According to the two-factor theory of emotion developed by Stanley Schachter and Jerome Singer (1962), emotion is determined by physiological arousal and cognitive labelling. They argued that we look at the external world to find an explanation as to why we are aroused; for instance, if we feel good at someone's pleasant comment, we may call the emotion 'happy'. If we feel bad after doing something wrong, we may call the feeling 'guilty'. To test their theory, epinephrine was injected into the volunteer participants by Singer and Schachter (1962). Epinephrine is a drug that produces high arousal. Then the volunteers were made to observe others behave in either an angry way (stomping out of the room) or a euphoric way (shooting papers at a wastebasket). As predicted, the volunteers' cognitive interpretation of their own arousal was influenced by the angry and euphoric behaviours. They said that they were happy when they were with a happy person, and angry when they were with an angry person. However, this effect only occurred when the volunteers were not aware of the injection's true effects. When they were informed that the drug would make them jittery and increase their heart rate, they said that the other person's behaviour was the reason for their own arousal. Psychologists have faced difficulty replicating Schachter and Singer's experiment, but in general, research supports the belief that misinterpreted arousal intensifies emotional experiences (Leventhal and Tomarken, 1986).

EDUCATIONAL UTILITY OF INSTINCTS AND EMOTION

We have already seen that over the years the term instinct has come to mean native behaviour as contrasted with what is learnt or acquired. In the case of instinctive behaviour, the individual performing it had no fore or prior knowledge of what action he would take. It has also been established that instinctive behaviour is directed towards the attainment of such ends and results which will be useful to the individual and to the race.

Check Your Progress

7. What does the Cannon-Bard Theory suggest?
8. What does the two-factor theory of emotion suggest?

6.6.1 Use of Instincts in Education

There several instincts in human beings which prove to be extremely useful in the sphere of education. Let us look at some of these and the way in which they can prove to be useful.

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- **Pugnacity:** Human instinct of combat or pugnacity is considered to be of universal motive. Any child who is put under restraint and his movement is stopped will begin to cry as loud as possible and the child's face will turn all red. Conflicts start, for example, as soon as fun is made of some individual who is irritable. It is known that the very activity of conflict will begin as soon a motive is seen to be remaining unfulfilled via an external agency.
- **Parental instinct:** This instinct combines in itself the emotion that we know as pity. The parental instinct is seen to manifest itself in the expressions of love of children who are older for the younger counterpart as also for other living creatures.
- **Escape:** The escape instinct and the emotion of fear are conjoined. It is possible to arouse the feelings of disgust and fear towards all things bad and conversely, towards things that are unnecessary learns to keep away the instinct of escape and fear from acting up.
- **Curiosity:** From the point of view of education, curiosity is looked upon as being the instinct which is most important. This instinct is a fundamental one and there is no definite biological basis for it. When any living being is confronted with any new or unrecognized object, it is natural for it to desire a complete knowledge or understanding of it. In human beings, curiosity comes along with the sense of surprise. Nearly every individual has the desire for the new. For example, seeing new places, learning new things and meeting new people. This desire to know new things can be exploited by educationists to further the knowledge of individuals.
- **Gregariousness:** It is by their very instinct that children are gregarious and they naturally wish to stay in their friends' group. Children are not desirous of being alone or in solitude. This instinct can be well utilized by teachers to further a child's social development. It becomes important for a teacher to maintain a close supervision of groups to be able to immediately see all of the different group tensions that evolve in the institution and also work towards evolving amongst the children the qualities of team spirit, co-operation and healthy competition.
- **Self-submission:** While on the one hand, the self-submission instinct could cause great hindrance in the development of a child, yet it is possible for an instructor who is alert to mound it in such a way that it takes on the form of respect towards the instructor and a positive and healthy regard towards general discipline.
- **Self-assertion:** Self-assertion as an instinct is a significant part of the character of an individual. It comes conjoined with the sentiment and emotion of self-respect that makes a child desirous of steering away from all such activities that appear to him to be undesirable. It makes the child desirous of putting all energies into such activities that are desirable. For a child to develop self-respect, it is important that the instructor use with the child only those examples that come from the environment which is familiar to the child.
- **Food seeking:** The instinct of food seeking is one that can easily be applied to various extremely fruitful activities when it is employed indirectly by the instructor for instigating the student into making greater effort towards his study. This can be done by inspiring the student, for example, with images of his being successful in his future livelihood.

Now, let us look at how education of learning is affected by emotions.

John Dewey was a believer in the development of the whole child. Despite what instructors might desire, the systems in schools across India and even in other nations,

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steers education in the direction of activities whose concentration is measurable rational qualities. And in this manner, the ability of a child to spell accurately is measured rather than focusing on and measuring the child's emotional well-being. The first areas in a child's school curriculum to be removed when so is the need are those which are expressive and not easily measured, like the various arts.

In the field of education, emotion holds a vital place. Emotion is the driver of attention, attention drives both memory and learning. In schools, there is not proper regulation of emotion due to its lack of understanding by those who need to regulate it. Mostly, the way that emotion is treated is that if there is too little of it or there is too much of it is put down as being misbehavior. It is rare to see emotional comfort as being made part of a school curriculum or the environment of a classroom. Also, in institutes of learning, there is a lack of addressing the link between a classroom that is emotionally positive as well as stimulating and the overall health of staff as well as the students.

The developments that are happening in the current times in the field of cognitive sciences are bringing out where and how emotions are processed in the human brain/body. Such a fusion of the psychology and biology of emotion is capable of providing highly potent applications in education.

The current emotion research and theory have thrown up fewer answers than questions. Nevertheless, it is important for educators to obtain a fundamental knowledge of the psychobiology of emotion so that they have the capability of evaluating the various applications of the same that are and will continue to come up in the field of education.

Classroom Applications

Despite the fact that the educational research's educational applications still remain rather tentative, various general themes have certainly become apparent along the lines of the perspective held and advocated by several educators.

Let us look at a few of the general principles and how they can be applied in a classroom.

- People do not learn emotions, emotions just exist within people. They cannot be changed easily. It is important to not ignore the emotions that rise. It is possible for students to learn how they can and when they should make use of some rational processes to override their emotions, or to hold them in check. *We should seek to develop forms of self-control among students and staff that encourage nonjudgmental, nondisruptive (and perhaps even inefficient) venting of emotion*, which will normally have to happen prior to the taking over of reason. Every human being is able to recall past incidents that will still lead to feelings of anger since at that time they were prevented from freely expressing their feelings before a decision was imposed on us.

  It is not a difficult proposition to integrate emotional expression in classroom life. One way to do this is to drawing the class into a tension-releasing circle (after a playground fight, for example) and playing a game of circle tag before talking out the problem. Once the students' collective limbic systems have had their say, rational cortical processes can settle the issue. If that doesn't work, sing a song. According to the British playwright William Congreve, 'Music hath charms to soothe a savage breast.' To elaborate, when in the process of solving a problem, keep the dialogue going while providing emotional input continuously.

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- According to Saarni and Harris (1991), even though they are unable to articulate it, majority of the students are rather knowledgeable regarding the complexity of emotions and the ways in which others and they themselves experience them. It is suggested, '*Schools should focus more on metacognitive activities that encourage students to talk about their emotions, listen to their classmates' feelings.*' They also need to consider the motivations of the other persons who come into their curricular world. To take an example, using the word 'why' in a question is capable of moving a discussion towards emotions and motivations and away from just bare facts. 'Why' was Bahadurshah Zafar sent to Rangoon? is a much more emotionally loaded question than Where was Bahadurshah Zafar exiled by the British?
- It is a proven fact that such activities which lay emphasis on the engaging of the complete body and also stress on social interaction are the ones to provide the greatest amount of emotional support. Some examples of such activities are arts, physical education, co-operative learning, interactive projects, field trips, discussions and games. Even though it has been known for a while now that activities of this nature provide enhancement to student learning, yet they are looked upon as being special rewards, and they are generally withdraw in such cases where misbehavior of students is seen or in cases where budgets are dwindling. At times these types of activities are altogether removed.
- Since memories tend to be contextual, such school activities that will draw out emotions in a student, activities such as cooperative projects, role play and simulations, could be able to provide significant contextual memory prompts which could come to the aid of the students to recall the information in the event of similar or closely related events in the real world. One example is of the fire drills that are performed in an emotionally charged setting and in an unannounced manner so that they can be replicated in the future when a fire will cause just such a situation.
- If the atmosphere of a school is stressful emotionally, it will prove to be counterproductive due to the fact that it will greatly reduce the ability of the students to learn. The feeling of a sense of control within the environment that one is in and a feeling of self-esteem are factors that play a key role in stress management.

SUMMARY

- Instinct is what we call innate behaviour and it is a living organism's inherent inclination to a specific complex behaviour.
- Instincts can be looked upon as being complex, inborn behvioural patterns which most members of a species possess. These are not reflexes. A reflex is nothing more than a response that an organism displays to a particular stimulus, like jerking back of hand when it comes in contact with something hot.
- There are many angles that can be used to investigate the phenomenon of instinct. Some of these angles are: environment, nervous pathways, limbic system and genetics.
- McDougall used a concept of instinct as being the basis of a highly comprehensive and persuasive theory of behaviour. This theory has the credit for having provided

Check Your Progress

9. State any three instincts that help in education.
10. What do you mean by parental instinct?

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two distinct achievements: it has created an elegant and novel amalgamation of the subject matter of psychology and based on biological principles, it has managed to provide to psychology the status of a natural science.

- In McDougall theory, instincts are composed of three parts: perception, behaviour and emotion. Human beings have a perceptual predisposition to focus on stimuli that are important to his goals.
- With respect to instinct, William McDougall advocated that instincts hold the ability to be moulded and changed during an individual's life time, but only within limits and these limits will vary from one species to another.
- McDougall's theory suggested that other than reflex, each and every behaviour is instinctive or at least its very basis lies in instinct.
- Grief and joy are examples of simple types of emotions while love and hate are complex types of emotions.
- Each emotion has its characteristic facial expression. Facial expression can vary across different cultures, although some aspects of facial expression seem to be universal.
- The emotions can be assessed on the basis of external physical changes. When we are extremely happy, our face lights up but when we are in grief, our eyes are filled with tears.
- Emotions are also expressed through voice. If a person is angry, his or her voice is different from the person who is expressing his or her love.
- Emotion can be defined as a feeling, an aspect of consciousness characterized by a certain physical arousal, a certain behaviour that reveals the feeling to both the outer and the inner world. Emotions can be pleasant as well as unpleasant, when we are angry and afraid we get an unpleasant feeling, when we are delighted we get a pleasant feeling.
- The most damaging effect of emotions is on the physique of the individual. Constant emotional tension may cause lack of sleep, restlessness, headache, chronic fatigue, insomnia and lack of appetite.
- Emotions can be classified into two broad dimensions—adaptive/positive and disruptive/negative. Positive affectivity (PA) refers to positive emotions, such as joy, happiness, love, and, interest. Negative affectivity (NA) refers to negative emotions, such as anxiety, anger, guilt, and sadness. Positive emotions facilitate approach behaviour.
- James-Lange theory of emotion was developed after the name of the psychologist William James and the physiologist G. G. Lange (1884–1894). According to this theory, the perception of an object is followed by the disturbed bodily activities and the bodily activities are followed by the confused sensation. A person becomes aware this sensation as a state of fear and anger.
- Physiologists Walter Cannon (1927) and Philip Bard (1934) theorized that the emotion and the physiological arousal occur more or less at the same time. Cannon, an expert in sympathetic arousal mechanisms, did not feel that the physical changes caused by different emotions were distinct enough to allow them to be perceived as different emotions. Bard expanded on this idea by stating that the sensory information that comes into the brain is sent simultaneously (by the thalamus) to both cortex and organ of sympathetic nervous system.

- According to the Two-Factor Theory of Emotion developed by Stanley Schachter and Jerome Singer (1962), emotion is determined by physiological arousal and cognitive labelling. They argued that we look at the external world to find an explanation as to why we are aroused; for instance, if we feel good at someone's pleasant comment, we may call the emotion 'happy'. If we feel bad after doing something wrong, we may call the feeling 'guilty'.

KEY TERMS

- **Emotions:** It can be defined as a feeling, an aspect of consciousness characterized by a certain physical arousal, a certain behaviour that reveals the feeling to both the outer and the inner world.
- **Instincts:** Instinct is what we call innate behaviour and it is a living organism's inherent inclination to a specific complex behaviour.

ANSWERS TO 'CHECK YOUR PROGRESS'

1. Instincts can be looked upon as complex, inborn behvioural patterns which most members of species possess.
2. Behaviours which does not need conscious effort are reflexes. For a reflex, the stimulus might not need activity from the brain, but it might go all the way to the spinal cord in the form of a message which then will be sent back through the body, creating a path that is referred to as reflex arc. Instinct is a noun that means inborn pattern of behaviour often responsive to stimuli.
3. Emotion can be defined as a feeling, an aspect of consciousness characterized by a certain physical arousal, a certain behaviour that reveals the feeling to both the outer and the inner world.
4. Emotions can be classified into two broad dimensions—adaptive/positive and disruptive/negative.
5. The two main types of emotions are simple and complex emotions. Grief and joy are examples of simple type of emotions while love and hate are complex types of emotions.
6. The two good effects might be:
   - Source of enjoyment
   - Source of motivation
7. Physiologists Walter Cannon (1927) and Philip Bard (1934) theorized that the emotion and the physiological arousal occur more or less at the same time.
8. According to the two-factor theory of emotion developed by Stanley Schachter and Jerome Singer (1962), emotion is determined by physiological arousal and cognitive labelling.
9. Pugnacity, parental instinct and curiosity are some of the instincts that help in education.
10. Parental instinct combines in itself the emotion that we know as pity. It is the instinct that manifests itself in the expressions of love for their children.

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QUESTIONS AND EXERCISES

Short-Answer Questions

1. What is instinct and how is it different from reflex?
2. What according to Abraham Maslow is instinct?
3. What according to McDougall are instincts composed of?
4. Why are negative emotion bad?
5. What are emotions?

Long-Answer Questions

1. Explain the theory of McDougall on instinct.
2. Write an essay on the different theories of emotion.
3. State the different types of emotions.
4. Write a note on the characteristics of emotions?
5. Discuss the effect of emotion.
6. Explain the role of emotions in education.

FURTHER READING

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UNIT 2 EDUCATIONAL TECHNOLOGY

Structure

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INTRODUCTION

History has revealed that technology strengthens the hands of a teacher and makes his/her teaching more effective. Education has been benefited by technology in various ways and at various levels. From both, sociological and the economic points of view, technology has made an impact on education training. Education could keep pace and avoid costs and uncertainties of invention, by merely following technological leads. Today, a number of institutions in developed and developing countries are offering courses through various communication technologies such as interactive TV, computer conferencing, the Internet and other modern media. Some distance education/open learning institutions in developing countries now are also offering courses electronically. As a result, a large number of learners are pursuing their studies through technology. In such conditions it becomes essential for all those in the field of education to be familiar with the nuances of the use of technology in education. Besides it is well known that some teachers teach better by utilizing new methods and techniques, whereas others prefer old methods. Over the years, many techniques, methods and equipment have been developed by teachers and researchers to make the process of learning effective. This process of developing and using scientific methods, media and techniques for enhancing the effectiveness of teaching and learning, is essential for educational technology. In this unit, we will discuss the functions of education technology.

UNIT OBJECTIVES

After going through this unit, you will be able to:

- Explain the meaning and definition of educational technology
- Analyse the nature of educational technology
- Categorize the types of educational technology
- Examine the scope of educational technology
- Discuss the role and significance of educational technology

- List the approaches to educational technology
- Identify the different types of electronic resources in the field of education

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MEANING AND DEFINITION OF EDUCATIONAL TECHNOLOGY

The 21st century has been named as 'age of knowledge' and there is no way in which one can deny the role of technology in different aspects of our lives. Like other fields, education too has been deeply impacted by technological revolution. This interface of education and technology is popularly known as educational technology. Some associate the term 'educational technology' solely with technical equipment and media of education, such as overhead projectors, television and computers. There are others who believe that educational technology involves a scientific and systematic analysis of the teaching–learning process with an objective to maximize its effectiveness.

Before going further, it is essential to understand the word 'technology'. This word is taken from the Greek word *technología*, which means an art and is related to skill and dexterity. Generally, the term 'technology' denotes the systematic application of the knowledge of sciences to practical tasks in industry. Technology can refer to material objects like machinery or hardware and also comprise more themes, including systems, methods of organization and techniques.

In context of educational technology, Garrison (1989) opines, 'Technology will be viewed here as having both a process (software) and a product (hardware) component, where process is the creative application of knowledge of purposeful activities. Asubset of hardware is media, where media are the devices used to distribute information.' Thus, educational technology is a wider concept of the word 'technology'. Further, it will be wrong to confuse the term 'teaching' with the process of teaching or instructing, or educating, or provision of knowledge or engineering. This creation of education does not compromise and has very positive future prospects. For all those who are constantly engaged in the pursuit of knowledge otherwise, it will remain destructive to the welfare of free society.

A large number of different groups and individuals have defined 'educational technology' in many ways, over a period of time. A few of the notable definitions are as follows:

- According to Finn (1962), 'Educational technology is a process, an attitude, a way of thinking about certain classes of problems.'
- Lumsden (1964) arrived at two meanings of educational technology, viz., educational technology-I (ET-1) and educational technology-II (ET-II). ET-I refers to the application of engineering principles of technology to instrumentation, useful in the process of teaching. ET-II refers to the application of behavioural science to improve instruction.
- The National Council for Educational Technology (1967) has defined educational technology as 'the development, application and evaluation of systems, techniques and aids to improve the process of human learning'.
- According to G. O. M. Leith, 'Educational technology is the application of scientific knowledge and learning and the conditions of learning, to improve the effectiveness and efficiency of teaching and training. In the absence of

scientifically established principles, educational technology implements the techniques of empirical testing to improve learning situation.'

- According to S. K. Mitra, 'Educational technology can be conceived as a science of techniques and methods by which educational goals could be realized.'
- According to 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.'
- According to D. Unwin, 'Educational technology is concerned with the application of modern skills and techniques to the 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.'
- According to *Shiksha Paribhasha Kosh* (1978), educational technology has the following meanings:
  - (i) It is the use of those scientific theories and principles during the formulation and application of training systems, which emphasize result and experience based objectives, and are based upon educational principles to guide the education system.
  - (ii) Educational technology is the use of those audio-visual devices in training, which are based on modern technology, e.g., use of computer stimulators, television, radio, video-tape, etc.
  - (iii) It is self-training based on planned instructional material, through teaching machines.
- According to the Association for Educational Communication and Technology, AECT (1977), 'Educational technology is a complex and integrated process, involving people, procedures, ideas, devices and organization, for analysing problems and devising, implementing, evaluating and managing solutions to those problems, involved in all aspects of human learning.'
- According to Mitchell (1978), there are five fundamental definitions of educational technology:
  - **(i) Educational technology I (educational psycho technology):** This meaning depends upon psycho technology to enhance a learner's capability by manipulating sensory input directly or indirectly. The various problems of educational psycho technology are: assessing the capability of students on the basis of diagnoses; clarifying the objectives of education; selecting or prescribing the instructions of communication, resources or actions and assessment. It includes all methods of management of the learning processes of others, in order to achieve certain prescribed behaviours. Controlled learning is important since student is the focal point. This meaning corresponds to the professional role of learning consultant.
  - **(ii) Educational technology II (educational information and communications technology):** This meaning stresses on the model, manufacture and assessment of training resources and communications for local or widespread distribution. Focus is on generating, selecting,

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processing and storage of information for the purpose of education and to retrieve information. This is to make knowledge more accessible. This meaning corresponds to the role of education materials provider.

(iii) **Educational technology III (educational management technology):** This definition stresses on organization of the resources of education. These resources include associated activities like planning, programming, budgeting, management, decision-making, operations research and system analysis. Organizational technology provides useful decision modes, information systems and organizational theory for man-machine systems. This concept of educational technology is supported by both practical and theoretical investigations. So, this meaning corresponds to management of learning resources.

(iv) **Educational technology IV (educational system technology):** This concept pertains to functions like setting up, outlining, constructing and evaluating educational systems. The education system developer is concerned with administration, operations, extra-mural and alternative educational systems. It may envision and execute a computer-aided system of training or design suitable courses.

(v) **Educational technology V (educational planning technology):** This meaning focuses on planning at the supra-institutional or national level. Non-educators are the prime occupants of this field. Their belief in alternative opportunities of education is overshadowed by economic factors related to the role played by the educational planner.

This fivefold meaning of educational technology represents the primary and central concept of educational technology. Each of these types can stand alone and yet be integral to others.

Mitchell (1978) arrived at the following consolidated definition of educational technology, 'Educational technology is an area of study and practice (within education) that is concerned with all aspects of the organization of educational systems and procedures, whereby resources are allocated to achieve specified and potentially replicable educational outcomes.'

According to the Scottish Council for Educational Technology (1979), 'Educational technology is a 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.'

In words of National Curriculum Framework, NCF (2006), 'Educational technology could be defined in simple terms as the efficient organization of any learning system, adapting or adopting methods, processes and products, to serve identified educational goals.' This would involve:

- Systematic identification of the goals of education, taking into account nationwide needs (like higher scalability), system capabilities and learners' needs and potential
- Recognition of the diversity of learners' needs and the contexts in which learning will take place and the range of provisions needed for them
- Recognition of not only the immediate needs of children but also of their future needs in relation to the society for which we are preparing them

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- Designing, providing for and enabling appropriate teaching-learning systems that could realize the identified goals
- Developing a range of support systems and training, enabling systemic conditions/materials and making them accessible schools
- Training teachers and students to use them
- Research existing and new techniques, strategies and technologies for solving problems of education, enabling judicious and appropriate application of technology
- Appreciation of the role of educational technology as an agent of change in the classroom, influencing the teacher and the teaching-learning process and its role in systemic issues like reach, equity and quality

In the executive summary of a paper on education technology, NCF(2006) opines, 'Educational technology is the efficient organization of any learning system, adapting or adopting methods, processes and products to serve identified educational goals. This involves systematic identification of the goals of education, recognition of diversity of learners' needs, the context in which learning will take place and the range of provisions needed for each of these.'

AECT has given its latest definition of educational technology as '…the study and ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources.' (Januszewski and Molenda, 2008). Mangal & Mangal (2010) opine, 'Educational technology should stand for a wise application of available human and non-human resources for providing appropriate solutions to educational problems and to improve the process and products of education.' Aziz Hap (2010) defines 'educational technology as 'the considered implementation of appropriate tools, techniques, or processes that facilitate the application of senses, memory and cognition to enhance teaching practices and improve learning outcomes'.

The wide differences in opinion, regarding the definition of educational technology among theorists and practitioners is very well revealed in the above definitions. These definitions initially embraced the whole range of activities of educational technology, from the methods of psychology of learning and teaching to audio-visual communication and mass technology.

However, one can list certain characteristics of educational technology from the above definitions:

- It is concerned with the systematic application of science and technology in the field of education.
- It adds efficiency to the process of teaching-learning within formal and informal situations.
- It includes organization of appropriate learning conditions for realizing the goals of education.
- It stresses on developing methods and techniques for effective learning and evaluation.
- It encompasses the complete teaching and learning process and is not limited to specific aspects.
- It involves input, output and process aspects of education.

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- It includes organization of learning conditions for realizing the goals of education.
- It enables and facilitates learning by control of learning situations, media and methods.
- It is not limited to the usage of audio-visual aids, but also extends to the application of psychological principles and instructional theories for improving the teaching-learning process.
- It provides procedural and practical guidance and explanation to the glitches of education.

Nature of Educational Technology

The roots of educational technology lead us to the time when early tools had come to exist, e.g., paintings on cave walls. However, generally, its history begins with a film on education (1900s), or Sidney Pressey's mechanical teaching machines of the 1920s. Since then education technology has been evolving and taken many forms such as PowerPoint presentations with voice-over; hypertext, i.e., V. Bush's memex in 1940s; Skinners work led to 'programmed instruction' in 1950s; Computer Aided Instruction or Computer Assisted Instruction (CAI) in the 1970s, through the 1990s and in the present scenario it has taken the form of Computer Mediated Communication (CMC), e-tutoring and blended learning among others. However, educational technology should not be confused with teaching or instruction or learning or engineering, but it should be taken as sum total of all such aspects which go a long way in shaping the personality of the learner in a meaningful context (Singh, 2006).

Further, with changes in the technology, the conception and nature of educational technology has also been adapting itself. Although the term has been in use for long now, however, it is still considered complex in nature. Educational technology is very versatile and comprises a cyclic procedure, a store of equipment (physical and conceptual) and a multiple-node liaison, mutually between learners and also between them and the facilitators of instructions (Hap, 2010). To understand the nature of educational technology, one needs to ascertain the objectives of educational technology and distinguish between 'technology in education' and 'technology of education'. One is also required to comprehend the components of educational technology.

Objectives of Educational Technology

As defined by Leith, educational technology is the application of scientific knowledge about learning and the conditions of learning to improve the effectiveness and efficiency of teaching and training. Educational technology has the following prime objectives:

(i) To modernize learning methods and techniques according to the changing world

(ii) To bring desirable changes in the behaviour of teachers and pupils by improving teaching, learning and evaluation conditions

(iii) To make classroom teaching clear, effective, objective and scientific

Hilliard Jason has given the following points on the objectives of educational technology:

(i) It transmits information.

(ii) It serves as a role model.

(iii) It contributes to the provision of feedback.

(iv) It assists in the practice of specific skills.

Alvin Toffler talks of 'responsible technology', so the objectives of educational technology can be as follows:

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(i) To establish objectives and put together goals, in terms of behaviour.

(ii) To examine the learners' personality.

(iii) To structure the information in an order that is psychologically inclined.

(iv) To arbitrate between content and resources of presentation.

(v) To assess the accomplishment of learners, in terms of the objectives of education.

(vi) To supply feedback, among other components, for modifying the learner.

General objectives of educational technology

(i) To identify educational needs of the community.

(ii) To determine the aims and objectives of education.

(iii) To prepare an appropriate curriculum.

(iv) To determine suitable strategies.

(v) To identify human and non-human resources.

(vi) To identify problems which stand in the way of development of the learner's personality.

(vii) To suggest remedies to solve problems that emerge.

(viii) To manage the entire educational system.

(ix) To improve the process and product of education.

Specific objectives of educational technology

(From the viewpoint of specific classroom teaching)

(i) To identify educational needs of students.

(ii) To determine classroom objectives in behavioural terms.

(iii) To evaluate and sort the content of instructions in logical or psychological succession.

(iv) To plan teaching methods and strategies of the presentation of content.

(v) To make use of aid material, software and hardware, mass media and communication techniques.

(vi) To identify human and non-human resources.

(vii) To evaluate classroom teaching, in terms of performance of students.

(viii) To provide continuous feedback to students and the teacher for improving the teaching–learning process.

Technology in Education and Technology of Education

Education today has grown in leaps and bounds. Technology has made learning easier for both teachers and students. The developments in technology are not limited to gadgets and appliances used by people daily, but they have reached schools and classrooms. In this connection, there are two phrases which are popularly and often interchangeably

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used—technology in education and technology of education. Though they sound similar, they are different.

Technology in education refers to the use of technological hardware in education. Here, more importance is given to the media used for carrying a message. It is mainly concerned with electrical and electronic gadgets, which are used to facilitate the teaching–learning process. This is a constantly evolving field that depends upon technological advancements. It involves the increasingly complex range of audio-visual equipment, hardware and sophisticated electronic devices like projectors, films, television, tape recorder, teaching machines, teletext and Computer Aided Instruction for individual and group learning. The use of technology in education has many advantages, just as technology has enriched every aspect of life. Technology in education is not limited to make learning and imparting of education easier in every possible way. It is also a field of study in itself for those who are involved with developing technological tools for educational purposes.

It is always advantageous to use technology in education because it helps both teachers and students to gain knowledge in a quicker and better way. Technology in education will be useful if it is properly planned and organized on psychological and pedagogical principles. Technology in education serves the following purposes:

(i) Supplies the required appliances, equipment and mass media for accomplishment of different purposes and functions of education.

(ii) Facilitates training of teachers to handle and make the finest use of equipment.

(iii) Develops a positive attitude among teachers and learners towards these appliances.

(iv) Signifies the relevance and use of the appliances in the context of individual and group learning, to achieve the goals of formal and informal learning.

Technology of education can be referred to as a purposeful utilization, in combination or separately, of objects, techniques, devices, events and relationships to increase the effectiveness of educational purpose. Technology of education deals with applying the resources of technological knowledge in an organized way, through which every individual has to pass, for acquiring and using knowledge. It governs the involvement of educationists in the design and evaluation of systems of learning, involving an understanding of the psychology of learning, communication and information theory. It signifies a technological approach to the system, issues and problems of education. This approach characterizes the methodology appropriate to learners' needs, learning objectives, the process of learning and teaching, as well as availability of resources. Technology of education includes Technology in education, as shown in Figure 7.1.

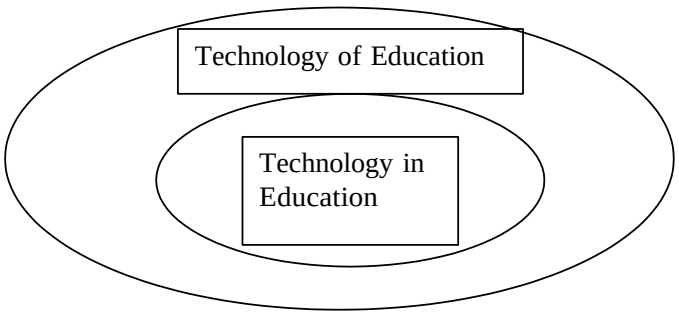

Fig. 7.1 *Technology in Education as a Sub-set of Technology of Education*

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Technology of education also includes decisions about different aspects of education like determination of educational objectives to be achieved, the size of learning groups, learning sequence, teaching methods and selection of media. It also comprises the appropriate use of media, knowledge, ideas, human and non-human resources in systematic planning, designing, production, management and evaluation of the educational process. In other words, it includes the entire process of setting goals, continuous renewal of curriculum, trial and use of new methods and materials, evaluation of the system as a whole and resetting of goals in view of changing circumstances.

Saettler (1978) distinguishes between technology of education and technology in education. According to him, the former is a behavioural science conception, whereas the latter is a machine (device) conception of educational technology. Radio, television, OHP (overhead projector), computer, tape recorder, etc., constitute technology in education. On the other hand, programmes on radio and television, computer programmes and OHP transparencies that are based on scientific knowledge of education, constitute technology of education.

Components of Educational Technology

S. P. Ruhela (2002) in his book, *Educational Technology*, has listed three main components of educational technology as a concept; and each component has a defined role to play in the process of education. The three components are:

(i) **Methods:** Making use of a few devices like programmed learning, team teaching, micro-teaching and personalized system of instruction as methods in teaching–learning situations.

(ii) **Materials:** Comprise instructional materials like programmed textbooks, manuals, guides, texts and other written/print materials.

(iii) **Media:** Implies employing audio or visual or both audio-visual media, such as radio, tape recorders, charts, maps, posters, films and educational television as teaching aids to supplement effective teaching and promote better learning.

Besides, manpower is an essential component of educational technology, which intertwines the web of methods, materials and media. In view of this list of components of educational technology, the concept of educational technology needs to be understood in the broader perspective of education. It is a comprehensive technology associated with all aspects of the educative process such as choice of methods, teaching strategies, selection of adequate/relevant learning materials, use of appropriate aids and guiding in operation/handling of various equipment to ensure better performance on the part of the learner. AECT (1977) reports, 'educational technology is a broad concept encompassing teacher and learner, as well as the process and product of learning'. Educational technology functions as a mission with the prime concern of reaching a large section of the society through all possible means. Educational technology involves greater psychological and pedagogical preparedness, a scientific attitude and a coordinated approach to the educational process as whole. It reflects a professional interest and zeal for making experiments and innovations for the development and success of education.

The highlights of the nature of educational technology are listed as:

(i) It is a science of techniques and methods which can help in realizing goals.

(ii) It is an application of the body of knowledge.

(iii) It takes help from the laws and findings of psychology, sociology, engineering, and some other basic social and physical sciences.

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(iv) The purpose of educational technology is to improve teaching–learning situations.

(v) It is a functional analysis of the teaching–learning process and it locates various components that operate from the stage of input to that of output.

(vi) It is dynamic and progressive in nature.

(vii) It treats school as a system of well-laid inputs, processes and output components.

(viii) It does not subsume the role of a teacher.

(ix) It is not an end in itself but a means to accomplish some laid down goals.

(x) It does not provide a solution to all types of problems, but it helps in the development of teaching and training processes of education.

(xi) It cannot be viewed in terms of its parts or processes. All branches, innovations, approaches and strategies should be integrated as a whole, according to the needs and requirements of the system represented by educational technology.

(xii) It is a technology that is continuously developing.

In essence, one can say that educational technology is applied to the teaching–learning process with the main purpose of making the system efficient and effective. In other words, appropriate use of educational technology can make the teaching–learning process efficient and effective. However, practitioners need to be careful about the use of media, methods and materials. This has been explained in NCF (2006): 'The key phrases in ET (educational technology) are appropriate technology, that is, appropriate to the task in hand for meeting specific educational objectives and the organization of all available resources into a workable system, which is checked again and again to ensure that it is appropriate and changing it where it is not working. In applying the discipline of ET to the field of education, it is imperative that the media choice must relate to instructional design as well as to what is available and eminently usable'.

Further, educational technology should not be considered just as subject but should be regarded as something that adds qualitative value, is relevant and appropriate. Its other attributes include transformation of education by making it dynamic and responsive and arousing curiosity and a desire to learn.

Types of Educational Technology

Technology, media and materials that are useful in the instructional process, comprise simple varieties that help teachers to develop and present their lessons more effectively in traditional classrooms. They also comprise sophisticated machines and mechanisms that completely change the structure and scenario of classroom teaching. A number of technological media and materials can be useful in both teaching and in the management of administrative data that is necessary in modern mass education. Educational technology can thus assume many forms. Often, its only aim is to make the current practices more efficient and effective. However, at times educational technology brings about pedagogical alterations. Though it can be regarded as a design science, it also tackles the basic problems related to learning, teaching and social organization. Hence, the complete use of all features of modern social science and life science methodology are captured by it.

Educational technology performs the twin functions of a tool and a catalyst. The three commonly accepted types of educational technologies are: (i) teaching technology, (ii) behavioural technology and (iii) instructional technology. These are discussed as:

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1. Teaching technology

Teaching is a skill. The use of technology in teaching makes this skill simpler, specific, functional and unprejudiced. This form of educational technology rests itself on the knowledge of philosophy, psychology and science, so as to achieve the desired learning objectives. There are two important features of teaching: (i) content and (ii) classroom communication. Substance and interaction are the two factors that form teaching technology. In addition, contemporary teaching focuses on the student and not on the teacher. Thus, it needs a psychological analysis of the learner. Hence, teaching is both scientific and psychological. The system of learning assists the teacher in making right decisions. In addition, it also builds up a sense of professionalism that makes one accountable. It incorporates essential alterations in the idea of teaching; teacher's training, formulating the policies of teaching, management objectives of a teacher, etc. Teaching technology is that form of educational technology, which is concerned with making the process of teaching more systematic.

Assumptions of teaching technology

Teaching technology is based on the following assumptions:

- The nature of teaching process is scientific.
- Teaching activities can modified as required.
- Pre-determined learning objectives can be achieved through teaching activities.
- A mutual relationship between teaching and learning can be established.
- Proper conditions can be created for effective learning.

Characteristics of teaching technology

E. G. Vedanayagam (1988) has solicited a list of characteristics and fundamental principles of teaching technology. These are as follows:

- Teaching is a scientific process and its major components are content, communication and feedback.
- There is a close relationship between teaching and learning.
- It is possible to modify, improve and develop teaching–learning activities.
- The terminal behaviour of the learner, in terms of learning structures, can be established by appropriate teaching environment.
- Teaching skills can be developed and strengthened by means of feedback devices, with or without sophisticated techniques.
- Pre-determined learning objectives can be achieved by designing suitable teaching activities.
- The use of achievement motivation technique enhances the output of a teacher and a learner.

Technology is a rapidly changing area of the curriculum. For experienced teachers as well as students and novices, technology has evolved the need for a whole new range of knowledge and skills in teaching. Davies (1971), in his book,*Management of Learning*, has presented the contents of teaching technology in four steps— (i) planning of teaching, (ii) organization of teaching, (iii) leading by teaching and (iv) control of teaching. These are discussed in detail, as follows:

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(i) **Planning of teaching:** Within this phase, the teacher examines the subject matter, decides upon and describes learning objectives, and puts these objectives clearly in writing. The following three activities are performed by him, as part of this phase: (a) task analysis, and (b) identification of the aim of teaching, (c) noting down learning objectives. As quoted by I.K. Davies, 'in teaching, planning is the work a teacher does to establish learning objectives'.

(ii) **Organization of teaching:** In this stage, an effectual atmosphere is created by the teacher. This is done through the selection of teaching techniques, approaches, procedures and vital benefits.

(iii) **Leading by teaching:** In this stage, the teacher is a source of motivation for the students. They show interest in the teaching and learning objectives in every phase of this stage. I.K. Davies wrote, 'leading is the work a teacher does to motivate, encourage and inspire students, so that they readily achieve the objectives of learning'.

(iv) **Control of teaching:** In this stage, there is no change in prearranged and described purpose of learning. This stage does not comprise the introduction of any change. However, the prospect is reviewed by the teacher, so that the predefined goals can be achieved. For accomplishing this impressive task, support is sought by the teacher through different techniques of validation and measuring of dimensions. If the teacher comes to the conclusion that the learning objectives have not been accomplished, then it is his duty to bring essential modifications in the organization's behaviour.

2. Behavioural technology

Behavioural technology is a vital constituent of educational technology. It emphasizes that psychosomatic values be used in learning and teaching. The motive is to change the behaviour of the teachers and pupils to match with the objectives of teaching. This form of educational technology is dependent on psychology. Behaviour is the focus of the process of education and learning with their objective to bring persistent changes. Different learning experiences are shared with learners to bring desirable changes in their behaviours. Here, behaviour would mean the cognitive, conative and affective activities of an individual. Behaviour technology, as a form of educational technology, is utilized to study and bring modification in the behaviour of all learning organisms.

B. F. Skinner popularized the usage of this term while making use of his 'theory of operant conditioning'. He used the theory to bring desired modifications in the behaviour of learning organisms. In the area of learning and education, behavioural technology focuses on the behaviour of teachers. Hence, it is sometimes also referred to as 'training psychology'. In schools, the task of behavioural technology has become almost synonymous with behaviour analysis and behaviour modification, carried out through the principles of operant conditioning and observation learning. In other words, behavioural technology focuses attention on the use of principles that have a psychological orientation in the processes of learning and teaching. This works to alter the behaviour of the teachers and pupils to match it with the mode of teaching. Behavioural technology is aimed at boosting the growth and development of behaviour and learning. It employs the following to transform the behaviour of a teacher:

- Definition of teacher-behaviour
- Doctrines of teacher-behaviour

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- Observation technique of teacher-behaviour.
- Study and nature of teacher-behaviour.
- Assessment and standards of teacher-behaviour.
- Prototypes of teacher-behaviour.
- Different tools to develop teacher-behaviour such as: programmed instructions, T-group training, interaction analysis techniques and simulated training of social skills.

Suppositions of behavioural technology

Behavioural technology is based on the following suppositions:

- A teacher's behaves socially and psychologically.
- A teacher's behaviour can be observed.
- A teacher's behaviour can be measured.
- A teacher's behaviour can be modified.
- Everyone is not a born teacher.
- Teachers can also be made.

Salient features of behavioural technology

Some of the important characteristics of behavioural technology are:

- The basic function of behavioural technology is psychology.
- Strength and responses are strongly focused upon in behavioural technology.
- The teaching acts are appraised from a purposeful viewpoint in behavioural technology.
- Behavioural technology emphasizes on psychomotor goals.
- Behavioural technology is in terms of the software approach.
- Behavioural technology is widely practised training institutes of teachers.
- The attention of behavioural technology can be based on individual differences between students and teachers.
- Behavioural technology is focused on the elements and direction of behaviour in a classroom.

Behavioural technology would help practitioners to know the nature of the existing behaviour, the nature of the target behaviour, and the ways and the means to meet gaps between existing and target behaviours.

3. Instructional technology

The evolution of a technology occurs when scientific learning and communication are used in teaching. When physical sciences interact with education, we are provided with traditional support, gear, materials like paper, ink, books, radios, films, televisions and more refined progressive hardware like, computers, space satellites, language laboratories, etc. Stoluraw (1963) stressed on the theory of existence of three most important factors that are focused on the association of instruction and technology: (i) population explosion of the world, (ii) exponential pace of the spread of new knowledge, and (iii) scientific and technological changes in our present social structure. Robert A. Cox defined the

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technology of instructions as '... the application of scientific process to man's learning conditions'. E. E. Haden opined, 'instructional technology is that branch of educational theory and practice, concerned primarily with design and use of messages which control the learning process'. The definition given by Unwin (1969) described instructional technology as: 'The application of modern skills and techniques to requirements of education and training (instruction). This includes the facilitation of learning bymanipulation of media and methods and the control of environment'.

Another popular and accepted definition has been given by S. M. McMurin (1970): 'Instructional technology is a systematic way of designing, carrying out and evaluating the total process of learning and teaching, in terms of specific objectives based on research, human learning and communication. It employs a combination of human and non-human resources to bring about the more effective instruction'. AECT has defined instructional technology as, 'the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning'.

In the present scenario, instructional technology is broadly necessitated to establish a progress in teaching, in learning and in the process of evaluation. This form of educational technology is meant for helping the instructor and the learner in the desired instructional task for the realization of stipulated instructional objectives, in a particular teaching–learning situation (Mangal, 2010). In other words, focus is on developing the instruction process.

Assumptions of instructional technology

The fundamental assumptions of instructional technology are as follows:

- A student is able to learn in accordance with his requirement and capability.
- A student can learn even if the teacher is not present.
- One can augment a particular instruction by its continuous use.
- Instructional objectives can be achieved with the help of learning objectives.
- The area of discussion can be segregated into different sectors or parts, and every part can be taught in an independent way by use of this technology.

Unique features of instructional technology

Following are the characteristics of instructional technology:

- Instructional technology helps a lot in the achievement of reasonable goals.
- Instructional technology can make teachers more efficient.
- When supported by instructional technology, the students can learn in accordance with their requirement and speed of grasping.
- Instructional technology has control over individual disparities.
- Instructional technology also uses the theory of conditioned response.
- A more detailed examination of subject matter is carried out with the help of instructional technology, which motivates optimism, pertaining to the remarkable manner in which the contents are presented.

Instructional technology suggests many tools, techniques and knowledge which are used in designing and delivering results. Together they provide useful means towards accomplishing educational objectives. It is important to know and be responsive to:

- The destination of delivery of instructions.
- The tools and techniques available to deliver instruction.
- The right time to use these tools.
- Design and delivery of successful learning experiences.
- Proper distribution of content and methods.
- The best place to deliver instruction.
- Ensured meeting of expectations.
- Revision techniques, in case instructions are not met.

The field of instructional technology will only grow if technology improves. The use of technology will help the delivery of education in an efficient manner, by overcoming the limitations and problems faced by the education sector. This form of educational technology is gaining popularity because instructional technologists claim to achieve effective learning by investing less time and cost, than through other means.

The main points of difference between three types of educational technologies (behavioural technology, teaching technology and instructional technology) are listed in Table 7.1.

Table 7.1 *Comparison of Three Types of Educational Technologies*

Aspect	**Teaching Technology**	**Behavioural Technology**	**Instructional Technology**
Exponents	I.K. Davis, Hunt, Morrison, Herbart	B.F. Skinner, Flander, Ober, Amidon	Lumsdan, Bruner, Asubel, Glaser
Purpose	Development of cognitive, affective and psychomotor domains	Development of cognitive, affective and psychomotor domains	Development of cognitive domain
Base	Philosophy, psychology and science	Psychology	Psychology and science
Approach	Hardware and Software	Software	Hardware
Focus	Teaching	Teacher	Instruction
Application	For making classroom teaching purposeful and effective	For producing effective teachers	Self-study, correspondence, remedial study

Scope of Educational Technology

The scope of any subject means the jurisdiction, limits or boundaries of its operation. Similarly, educational technology needs demarcation of boundaries within which the process of education can go on. As has already been acknowledged, educational technology is concerned with bringing about an improvement in the teaching–learning process. It is an applied or practical study which aims at maximizing educational effects by controlling different types of confounding variables. Thus, educational technology is a broad concept that has a wide application. The National Policy on Education (1986) recommends: 'Educational technologywill be employed in the spread of useful information, the training and retraining of teachers, to improve quality, sharpen awareness of arts and culture, include abiding values, etc., in both, formal and non-formal sectors. Maximum use will be made of the available infrastructure'.

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According to S.S. Kulkarni, the scope of educational technology is: (i) to analyse teaching-learning, (ii) to evaluate the functions of the components of teaching-learning, and (iii) to interpret these components in such a way that effective results can be achieved. In narrow sense, educational technology means a little more than the use of sophisticated hardware in teaching, including overhead projectors, tape recorders, televised films, cassettes, videodiscs, gramophones, etc. On a broader scale, it may be interpreted to mean the use of any new technique or method of teaching. Drawing on the same and other related definitions, the scope of educational technology can be encapsulated in the points discussed below:

- **Analysis of teaching and learning process:** Educational technology attempts to discuss the concept of teaching. It also analyses the teaching process, variables of teaching, phases of teaching, levels of teaching, theories of teaching, principles and maxims of teaching, the concept of learning, theories of learning, relationship between teaching and learning, and application of different concepts in specific classroom activities. It optimizes learning and attains optimum educational objectives.
- **Determination of objectives:** Writing objectives in behavioural terms is an essential task for carrying out the process of education. Educational technology has provided different methods and techniques for writing instructional objectives in behavioural terms. The RCEM (Regional College of Education, Mysore) approach, Bloom's Taxonomy and other similar ones have provided options to teachers for setting objectives in their own style, according to their specific needs. The adaptation of the objectives to the changed environment and altered circumstances has been enabled by the use of educational technology.
- **Development of teaching–learning materials:** Teaching–learning materials are an important aspect of the teaching–learning process. Educational technology has contributed to the production and development of suitable teaching–learning material, in view of predetermined objectives, designed curriculum and accessible resources. This covers the techniques of developing software and instructional material like programmed learning material, personalized system of instruction, material for mass education, computer assisted learning material, and material for open university courses.
- **Development of teaching–learning strategies:** Educational technology has tried to describe ways and means of discovering, selecting and developing suitable strategies and tactics of teaching, keeping in mind the different circumstances, the available resources, and other factors. Progressive development of different teaching models and methods has always equipped the teacher with newer teaching–learning strategies.
- **Teacher training:** Educational technology takes into consideration all aspects of the teaching–learning process. Teachers are one of the important aspects for those working in the field of educational technology. The subject has therefore been inclined towards the purpose of preparing teachers and has evolved techniques like micro-teaching, Flanders' interaction analysis, and simulated teaching, for teacher education programmes.

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- **Development of curriculum:** An appropriate and well-balanced curriculum is the backbone of education, for any group of learners. As new technologies are created, knowing successful strategies for developing and transferring educational material becomes increasingly important. Educational technology can dwell on suitable frameworks, learning experiences, and innumerable factors associated with the development of appropriate curriculum, as per the societal needs.
- **Usage of audio-visual aids:** The selection of appropriate audio-visual aids greatly enriches the teaching–learning process. Educational technology discusses at length, the different facets of audio-visual aids, for example different types and rules governing their selection, development and production, their storage and retrieval and consideration about their applicability, cost-effectiveness and efficient deployment in learning situations.
- **Development and utilization of mass media:** Educational technology has a huge application in educating a large section of people and imparting a large amount of knowledge in a limited span of time. With reference to this, the mass media, i.e., television, radio, newspaper, and other modern technologies like computers and information technology (e-mail, Internet, etc.) has a lot of scope. The illiterate masses can be educated with the help of innovative methods and practices of teaching and learning.
- **Historical information:** Any branch of knowledge that we deal with has a historical base. Such information holds tremendous importance for students to understand any branch of knowledge in its totality. When such incidents occur, they can be recorded on audio/video CDs or documented in the form of written or printed material. Such documents become the source of information for learners. Educational technology has enabled teachers to store such historical information and transmit it to next generation learners. Thus, education technology helps in collection, storage and retrieval of information.
- **Gaming and simulation:** Educational technology provides the option of going through historical events, which is either costly or hazardous and cannot be done through simulation. Computer technology plays a main role here. It can provide a lifelike picture of the phenomena, in different dimensions. Education technology can also show the operation of different parts of a phenomenon and the consequences. The other possibility is games. Through gaming, children can learn many concepts that cannot be taught in the formal set-up of a classroom. Besides exhibiting their benefits for children, gaming and simulation have also proved to be useful in the training of teachers at both pre-service and in-service levels.
- **Distance education:** Educational technology has a great scope in distance education and open school programmes. In the present scenario, there is a great need for personnel training and education on regular basis to keep one updated in the field of work. On the same lines, distance education programmes, a relatively less formal process of education, have acquired an important status. Educational technology, with its innovative practices, can educate learners who cannot attend classroom sessions for their education. In this regard,

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programmed learning materials, modules, contact programmes, and counselling are some innovations that can help distance learners. This has made higher education accessible to the masses.

- **Appropriate tools, techniques and processes:** Techniques and processes have proved their value in the field of education. Teachers have come up with methodologies to fulfil tasks and obtain the targeted learning outcomes. The refinement of these techniques is a continuous process, similar to continuous developments in technology. Here, it is inevitable to understand that the employed technique should be appropriate; even though the most expensive technology is used, it may not add any value to education.

The above discussion endorses the fact that educational technology is concerned with all variables, phases, levels and aspects of the teaching–learning process. In fact, the scope of education technology cannot be confined to narrow boundaries. The expansion and development of the subject matter would further aid in improving the teaching–learning process. Thus, educational technology is a concept that is widening continuously.

UTILITY OF EDUCATIONAL TECHNOLOGY IN FORMAL AND NON-FORMAL EDUCATION

As a discipline, educational technology extends beyond the total of its components. In the present context, educational technology connotes a field of study including instructional design, audiovisual media, teaching–learning process, teaching strategies, training strategies and assessment strategies. Educational technology is far more than just technology; its bases are psychology, social anthropology and sociology. Early developments in this field defined the use of technology in education as the involvement of audiovisual equipment, i.e., hardware in educational processes. The use of hardware in teaching–learning results in increased effectiveness of the education process. This progression in the field changed the definition of technology in education, i.e., methods and techniques of the teaching–learning process. Practically speaking, this signifies the software section of educational technology. The use of technology in education results in increased productivity through human capability.

Check Your Progress

1. What do you mean by educational technology?
2. Give one difference between technology of education and technology in education.
3. What are the main objectives of educational technology?
4. What are the three types of educational technologies?
5. State the basis of the three types of educational technologies.

Educational technology has to be understood as a science of techniques and methods, by which educational goals can be realized, which makes it easy to adopt modern technologies for improving the effectiveness of the educational process. Consequently, machines and newer techniques are being employed in all areas of knowledge: preservation, transmission and advancement. This extends educational technology across wider boundaries. However, we need to understand that technology within the confines of the classroom has many advantages as well as disadvantages. The disadvantages include absence of adequate training, restricted access to technology and extra time wasted in implementing new technologies. For better understanding of educational technology, it is important to be familiar with the theories of human behaviour, and how behaviour gets affected by technology. This necessitates the adoption of a systematic procedure for using technology in the classroom at a narrow level and the whole educational process at a broad level. This gives way to different approaches to educational technology.

Approaches to Educational Technology

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Professor Henry Ellington (1993) opined that the key function of educational technology is to bring about improvements in the general competence and efficacy of the teaching–learning process. He further said that these improvements can be introduced in the following ways:

(i) By enhancing the quality and capacity of learning.

(ii) By reduction of the turnaround time for learners to achieve the assigned objectives.

(iii) By making teachers more efficient.

(iv) By cost-cutting without compromising on quality.

(v) By making learners capable of taking their own decisions.

(vi) By providing education in more flexible ways.

Considering educational technology as multifaceted in nature, Lumsdaine (1964) has listed its three distinct approaches:

(i) Educational technology I (ET1) or the hardware approach

(ii) Educational technology II (ET2) or the software approach

(iii) Educational technology III (ET3) or the systems approach

1. Hardware approach

The hardware approach implies the use of mechanical materials and equipment in the domain of education. Audiovisual aids like charts, models, filmstrips, slides, audio cassettes and sophisticated equipment and gadgets like films, projectors, radio, tape recorder, record player, television, video, teaching machines, computers, etc., fall in the category of hardware. The hardware approach is based on the application of principles of physical sciences and engineering to education and training. In this system, the teaching process is being mechanized gradually so that maximum pupils may be educated in minimum time and at low costs. This approach is a by-product of the scientific and technological developments of the 20th century.

It is to be noted that teaching machines are the only mechanical aids deliberately designed and invented to fulfil instructional requirements. All other audiovisual aids were designed and manufactured for improving the communication system, but now they are being used for instructional purposes.

The mechanization is being introduced for preservation, transmission and advancement of human knowledge. For instance, a teacher can deal with a large group of students by his discourse on radio or television. Thus, educational and training systems are able to deal with an increased number of students and the cost per student has been reduced by the hardware approach to education. Silverman (1968) referred to this type of educational technology as 'relative technology'. This comprises borrowing and applying technology, machines and devices in the process of teaching and learning. In this context, educational technology serves a simple 'service' function in education.

Ivor Davies calls this approach the 'audiovisual archetype'**.** This approach stresses on the employment of machines, devices, equipment and similar instructional aids. This approach focuses on the teacher and his/her teachings. 'Technology is seen as a means of mechanizing or automating the process of teaching with devices that transmit, amplify, distribute, record and reproduce stimuli materials and thus increase the teacher's impact,

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as well as widen potential audience' (Davies, 1978). In the beginning, media had developed this approach during the 1930s. It gained prominence during the post World War II period. According to Davies, this 'audiovisual archetype' considers audiovisual hardware to perform functions like supporting classroom presentations, improving demonstrations by giving access to reality or simulations of reality. It is not possible for a teacher to come up with these, within a short span of time. Nevertheless, this approach has faced several criticisms for lack of coordination in its application.

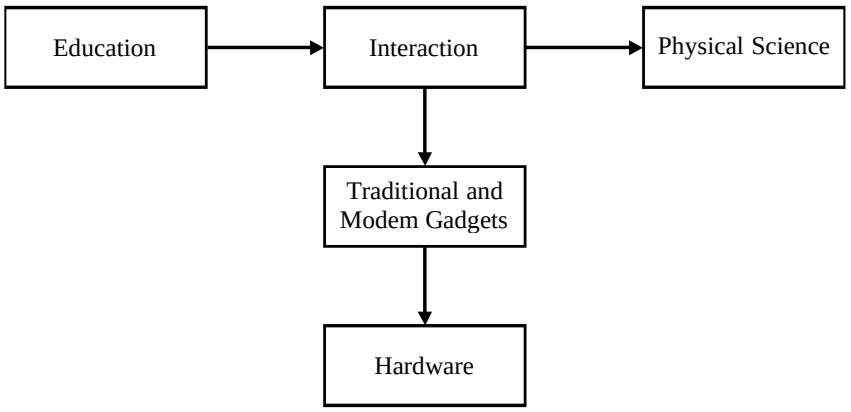

Fig. 7.2 *The Hardware Approach*

Characteristics of hardware are as follows:

- Hardware components are generally electronic and mostly depend on mechanical systems.
- New techniques and researches are being conducted to evaluate the effect of hardware.
- The outcome of hardware is direct and immediate because of its concrete form.
- Hardware components are the media of communication.

2. Software approach

The software approach or software technology of education owes its origin to behavioural sciences and their applied aspects concerned with the psychology of learning. It originated from the engineering efforts of Skinner and other behaviourists. According to Arthur Melton (1959), software teaching is directly related to psychology of learning, which comprises behavioural changes resulting from experience. This view of educational technology is associated with modern principles and theory of teaching, models of teaching, theory of instruction, and theory of teacher–behaviour and principles of programmed learning. The components of software technology are closely associated with the modern principles of programmed learning, such as:

- Task analysis
- Writing objectives in behavioural terms
- Selection of appropriate instructional strategies
- Reinforcement of correct responses
- Constant evaluation

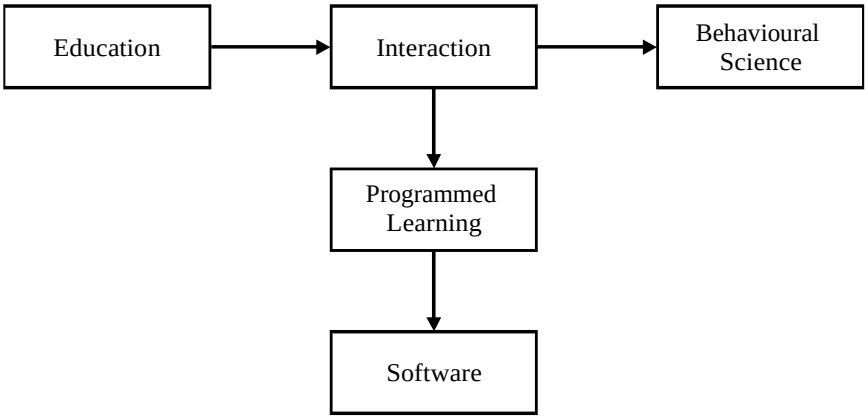

Fig. 7.3 *The Software Approach*

Leith observed that, 'educational technology is the application of scientific knowledge about learning and the conditions of learning to improve the effectiveness and efficiency of teaching and learning'. Silverman (1968) termed software technology as constructive educational technology due to its constructive nature. Its basic educational applications are in the analysis of instructional problems, selection or construction of measuring instruments required to evaluate instructional outcomes and construction or selection of strategies and tactics to produce desired educational outcome.

Ivor Davies, names this approach as 'the 'engineering archetype', which applies the principles of behavioural science for the betterment of learning. Despite the use of hardware, this approach focuses on the learner and the learning. Therefore, it is called the software approach. 'Technology is seen as a means of providing the necessary know-how for designing the new, or renewing the current, worthwhile learning experiences. Machines and mechanization are merely viewed as instruments of presentation or transmission' (Davies, 1978).

It was in early 1969 that software approach initially developed in the area of programmed learning. It was the outcome of Skinner's efforts on operant conditioning. In the beginning, this approach found its application in the design of materials having sequential content. Soon after, it was widely used as part of curriculum and for developing courses. Based on the engineering approach, it takes the form of a series of steps to be followed. These steps comprise a statement of inputs and definition of objectives, intermediate steps which examine and select instructional strategies and resources and a terminal step of evaluation and output. This process always includes feedback. Though conventionally, ET1 went aboard after ET2, it is not to be regarded as a successful version of ET1. The development of both versions was independent and they still exist.

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Table 7.2 *Differences between Hardware and Software Approaches*

Hardware approach	Software approach
Hardware approach has its origin in physical science and applied engineering.	The origin of software approach is in behavioural science and its allied aspects concerning the psychology of learning.
It refers to the application of the principles of physical sciences or engineering and technology, in the development of electro-mechanical equipment used for instructional purposes.	It refers to the application of teaching–learning principles to direct and deliberate shaping of behaviour.
It tries to adopt a product-oriented approach.	It tries to adopt a process-oriented approach.
It helps in better communication of educational purposes. It makes teaching effective by mechanizing the teaching–learning process. It increases the efficiency of educational means and reduces the cost of education.	It contributes to increase the efficiency of teachers as well as learners. However, it lags behind in reducing the cost of education.
It comprises charts, models, slides, filmstrips, audio cassettes, sophisticated equipment, gadgets like television, film projectors, tape recorders, record players, videos, teaching machines and computers.	It comprises modern principles and theory of teaching, models of teaching, theory of instruction, theory of teacher behaviour and principles of programmed learning.
Hardware technology is concerned with production and utilization of audiovisual aid material, sophisticated instruments and mass media for helping teachers and learners to achieve better results.	Software technology, tries to exploit the psychology of learning for production and utilization of software techniques and material in terms of learning material, teaching–learning strategies, tools of evaluation and other devices.
Hardware is of no use without a suitable software that governs its working. It needs the services of software technology for its functioning.	Software approach makes the hardware functional.
Hardware is prepared by assembling different gadgets. The same hardware can be used in different fields like industry, entertainment, education, corporate sector, etc.	Silverman termed educational technology as 'constructive educational technology'. It concentrates on the analysis, selection and construction of whatever is necessary to meet only educational requirements.

Thus, we may conclude that while the hardware approach originated from physical sciences and applied engineering, the software approach owes its inception to behavioural sciences and their applied aspects concerned with the psychology of learning.

Significance of software and hardware

The significance of software and hardware in education are as follows:

- They cater to individual differences of students.
- They contribute to the economy of time, energy and resources of teachers and students.
- They bring clarity and vividness to the subject matter.
- They help to motivate students.
- Their help in developing and sustaining the interest of the students.
- They make the subject matter interesting, attractive, inspirational and effective.
- They provide for active participation of students.

These aspects of educational technology are closely intertwined to serve the cause of education. Hence, a clear demarcation between their constituents is difficult. For every hardware, there is corresponding software, as shown in Table 7.3.

Table 7.3 *Educational Hardware and Corresponding Software*

Hardware	***Software***
Overhead projector (OHP)	Overhead transparencies
Slide projector	Slides
VCR and monitor	Video programmes
Computer	Computer programmes
Blank paper	Written matter

It needs to be clarified here is that Table 7.3 is not an exhaustive list, but only a suggestive list of components. The list is endless and continuously growing owing to the rapid technological developments taking place and even faster adoption of these newer technologies in teaching–learning situations. What needs to be borne in mind is that with the development of new technologies, the older ones still occupy an important place in our educational system.

Non-Projected Displays

As the name proposes, non-projected displays comprise every type of visual display that can be shown to a group of students without the use of any optical or electronic projector. They use the most fundamental types of visual aids that teachers and trainers can avail. A few of the popular non-projected displays are discussed in this section.

1. Chalkboards

These boards are dark in colour, so that chalk can be used to write on them (Figure 7.4). They are the most popularly used visual aids despite the fact that overhead projectors present the same information in a better manner. This is because chalkboards are easy to handle and produce or customize during the course of a lesson; and also to explain calculations and similar exercises to a class of students. It is probably the cheapest and most widely used form of hardware in formal teaching–learning situations. A good chalkboard is 4 × 6 or 4 × 7 or 4 × 8 feet in size, and is made up of slate or glass. It is fixed on the wall at a height of at least 3 feet and is grey, black or green in colour. Now, we also have white boards on which we use multi-coloured pens for writing. These can be wiped off with a damp cloth. These boards are made of wood and their surface is very smooth. A chalkboard provides: (i) a visual presentation of the main teaching points, (ii) a structured record of the content of the session, (iii) a basis for summarizing, (iv) a guide for trainees to take notes from, and (v) additional effect to spoken words or lecture.

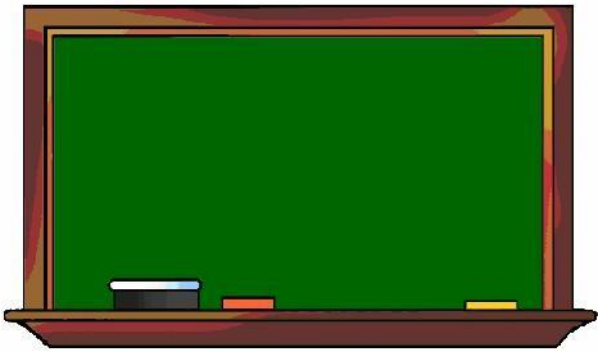

Fig. 7.4 *Chalkboard*

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The advantages of using chalkboard are:

- They are easily available.
- They can be used without much advance preparation.
- Notes and diagrams can be built up as the lesson progresses.
- Points can be added and deleted.
- The ideas and words of trainees can be easily included in the summary.
- Learners can be involved in writing answers, comments, etc.

The unique features and advantages associated with a chalkboard make it the most important and essential aid to teaching and learning in all the subjects of the school curriculum. It is the only aid that is easily accessible to both teachers and students for visualizing the subject matter and diversified subject areas of the school curriculum. When used by a teacher, several points should be borne in mind, such as proper selection of the portion of the chalkboard, regular and proper cleaning of the chalkboard, use of good quality chalks; suitable lettering size for visibility, appropriate angle of writing, and non-traditional use for delivering maximum benefit to students.

2. Marker boards or White board

Training halls and teaching rooms often have these boards, which are gradually replacing the conventional chalkboards. These are popularly also known as 'whiteboards'. They are big, white or light-coloured plastic sheets, with surfaces that can be written on. Writing instruments like felt pens, markers or crayons can be used to write on these sheets. Nevertheless, markerboards have the following advantages, when compared with chalkboards:

- There is a lot of mess associated with the usage of chalkboards, even when 'dustless' chalk is used. Marker boards do away with this mess.
- One can use many colours and shades for better, sharper and well-defined display of drawings and written text.
- Unlike a chalkboard, a marker board can work like a projection screen, if required.

One disadvantage of using marker boards on a long-term basis is the difficulty faced when cleaning its surface. After a period of time, writing impressions left behind cannot be erased. Hence, the use of special marker pens is advised, which are recommended by the maker of the board. The board should be cleaned regularly with a damp cloth dipped in the specific cleaning fluid or solvent.

Fig. 7.5 *Marker Board*

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3. Electronic marker boards

As technology has developed, electronic marker boards have gained wide acceptance. Electronic marker boards have an edge over manual ones as they can facilitate photo-electronic scan of the written text or drawings on its surface. Some of these boards also have the feature of producing miniature hard copies of the material. Multiple hardcopies can be produced for distribution among members of a class or group. The use of electronic marker boards is limited owing to their high cost.

Some electronic marker boards can scan the material written or drawn on them, so this material can be practically produced and loaded on a communication network and linked with other locations. An appropriate display system can also enable one to view the material from different locations. These types of electronic marker boards offer a suitable platform for interactive communication with distance-learning students. This is the reason that they are so widely used by many educational institutes and universities that offer distance-learning courses.

Fig. 7.6 *Electronic Marker board*

Their utility is much higher for students in remote areas. They are popularly known as 'smart boards' in Indian settings.

4. Adhesive displays

Adhesive displays also fall in the category of non-projected display media. In these, the material to be displayed is stuck on the surface without the use of drawing pins or glue. Adhesive displays comprise felt boards, hook and loop boards and magnetic boards.

5. Felt boards

Felt boards are also called flannel-boards or flannel-graphs. These types of boards use shapes cut out of felt, flannel or similar material that can stick to the display surface. They make use of rationally reasonable, easily portable, and very useful technique of display. Felt board are useful for creating both permanent and temporary displays that can be mounted on walls. Nevertheless, they find most appropriate use in exhibited displays like table settings, corporate structures, jigsaw puzzles, and in fundamental mathematical and geometrical concepts.

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Fig. 7.7 *Felt Board*

6. Hook and loop boards

Hook and loop boards work on the same principle as felt boards. They are also known as teazle boards or teazle-graphs (Figure 7.8). However, these boards use special material (like velcro), with many tiny hooks attached to it. On the other hand, the display surface has a covering of small loops which can be attached to the hooks. These hooks and loops allow the tagging of heavier display material, as and when required. Hook and loop boards are used on the same lines as felt boards, but the added advantage is the provision to heavy display material.

Fig. 7.8 *Hook and Loop Board*

7. Magnetic boards

The magnetic board is also a type of adhesive board. These boards have higher utility and versatility, in comparison to felt boards and hook and loop boards. Different types of magnetic boards are available in the market. The latest version comprises sheets of ferromagnetic material, which are coated with special paint on which one can write or draw using suitable markers or pens. All types of board enable display items made of (or backed with) magnetic material to be stuck to and moved about on their surfaces.

These boards also enable movable display to be supplemented by writing or drawing on them. Thus, with the help of magnetic boards (Figure 7.9), highly complicated and refined displays can be created. These displays enable users to clearly exhibit movement and change in systems. They operate as an excellent medium to demonstrate a teaching strategy or to conduct sports related training. To create an exhibit for a basketball or a football team, a permanent field can be painted on the board. Magnetic discs can be used to identify every player. Each magnetic disc can be rearranged and moved around, as and when required. Appropriate arrows and lines made by chalk or marker pens can be used to express different movements and run patterns.

Fig. 7.9 *Magnetic Board*

8. Charts, posters and flat displays

Different forms of charts, posters and other flat pictorial displays have a high usage and versatility among teachers and instructors. We learn about some of the important varieties in this section.

9. Flip charts

Flip charts are one of the simplest flat type displays. Information can be effectively displayed to a class or a small group of learners through flip charts. These comprise several large sheets of paper, which are attached to a support bar, easel or a display board with the help of clamps or pins. This makes it possible to flip the charts backward or forward, as per the requirements of the teaching–learning situation. There are two basic uses of such charts. A sequential progression of already designed sheets can be displayed through flip charts. This can be done in the desired sequence by flipping one sheet over the other. The following precautions should be kept in mind while preparing flip chart sequences:

- The message on every sheet should be easy to understand.
- All that is written or drawn on every sheet should be visible to every member of the core group.
- The print quality and size should be inspected by the teacher/trainer by viewing it from every part of the room.

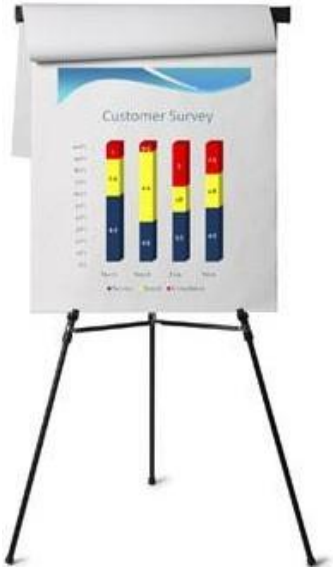

Fig. 7.10 *Flip Chart*

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Flip charts are also useful to jot down content spontaneously during the course of a session or training. They can also be used to make a listing of responses, questions and ideas from learners or concerned groups.

10. Wallcharts

Different forms of wallcharts are used in every sector of education and training. They are widely used because they are versatile and simple. They have entered the teaching–learning scenario in the sophisticated form of visual aids. Charts and wallcharts cannot be differentiated clearly. In simple terminology, any chart that can be put up on a wall or a noticeboard can be called a wallchart. The main purpose of wallcharts is the casual study outside the context of a formal session. The information on charts has a higher level of clarity, when compared to that on wallcharts. In addition to this, they differ in their usage and construction. The common factors in both wallcharts and simple charts is that their sizes can vary and they can comprise more information when compared to overhead transparencies or a 35-mm slides.

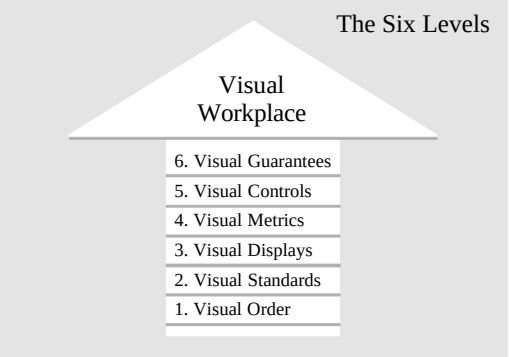

Fig. 7.11 *Chart*

Charts offer the following advantages:

- Clean presentation
- Portability from one place to another
- Availability of material for summing up

The drawbacks of charts are as follows:

- Limited space on each sheet
- Need to be stored carefully to avoid folds
- Cannot add or remove matter from the sheets
- Are not very durable

Charts can be used to explain important concepts and for recapitulation. Charts that can be referred to learners for content, as and when required, are called 'reference charts'.

11. Metaplan charts

The metaplan system consists of lightweight pinboards like those made of thermocol, brown sheets, thick cards in different shapes and colours. Other materials used in these charts are felt-tiped markers and glue.

In this system, the participants are asked questions relevant to the theme of the session and to write their views on cards. These cards are collected and shuffled to ensure anonymity. Then they are read out and pinned on boards. It helps to get a collective

view of ideas from those involved. Pinboards can be as large as black- boards. The number of pinboards required will depend on the number of trainees, themes, etc. Normally, two to three boards are required for each session or theme. If there are 24 participants who are divided into three groups and three sessions to use the metaplan system, nine boards will be required. Both sides of the board can be used, which gives flexibility and space.

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12. Posters

S. K. Mangal, in his book, *Teaching of Social Studies*, defined poster as 'a graphical representation of some strong emotional appeal or propaganda carried out through a combination of graphic material like pictures, cartoons, lettering, and other visual art on a placard, primarily intended to catch and hold the attention of the viewers and then forcefully conveying and implanting in their mind a specific fact, idea or message'. Since a poster is designed to make a public announcement of a special idea, it usually includes an illustration with a brief caption. It supports local demonstrations, exhibits or activities. The purpose served by a poster can be as follows:

- Catch attention
- Create an impression of a fact or an idea
- Stimulate to support an idea
- Motivate to seek more information and to move towards action

They can be specifically used at different stages of delivering a lesson. Similarly, they can also be used in presentations, practice and recapitulation stages to focus attention of the learner on some specific idea, event or process. A good poster usually concentrates on a single idea and shows a unity of purpose. It is quite helpful in effectively impressing inherent facts, ideas or messages on the minds of children.

Three-Dimensional Display Materials or Non-Projected Displays

Display materials discussed till now were all two-dimensional displays. This section discusses a group of non-projected displays, which are three-dimensional. Non-projected displays are divided into three categories: (i) mobiles, (ii) models, and (iii) dioramas.

1. Mobiles

Basically, a mobile is a three-dimensional wallchart. However, individual components of this wallchart can be moved around. This is a system where pictures and words can be drawn on card or stencilled on some metal. Fine threads can be used to hang them separately after cutting them, instead of hanging them on a wall. The resulting display is capable of changing shape and direction, in response to air currents. These displays can be hung from any corner of a room where they are visible to anyone who enters the room.

2. Models

Models can be identified as three-dimensional representations of real or abstract items. A broad range of instructional and teaching–learning situations make extensive use of models. They are primarily used as:

- Visual support material for large-scale education
- Objects for study or manipulation in individual learning
- Construction projects for individuals, small groups or entire classes

Check Your Progress

6. List the three approaches of educational technology as suggested by Lumsdaine.
7. What does the hardware approach to the domain of education imply?
8. Define non-projected displays.
9. Give examples of adhesive displays.
10. What are the advantages of charts?

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Models are more specifically used to:

- Modify objects so that they can be easily observed and handled; this includes both reducing very large objects and enlarging very small objects.
- Clearly demonstrate interior structures of objects or systems as two-dimensional representations are not capable to give this degree of clarity. Products of virtual-reality that provide this clarity are very expensive.
- Exhibit movement, which is not possible in case of two-dimensional displays.
- Display complex parts of a process in a simple way for learners to understand; by focusing only on significant areas and eliminating all that is complex and causes confusion.

Instructors or teachers should keep in mind that if viewed from a distance, even three-dimensional displays appear like two-dimensional ones. Hence, the distance of the learners from a model should be optimum for them to view it clearly.

3. Dioramas

Dioramas are still-display systems which can combine three-dimensional foreground images with two-dimensional background. The effect thus, created is realistic. They can be used to teach a number of subjects, including:

(i) Biology and natural history (showing plants or animals in their natural environment)

(ii) Architecture, geography and geology (showing buildings, cities, surroundings, primitive landscapes and sites).

(iii) History, theatre, spiritual learning (illustrations of scenes from history or drama, stage sets and battles.

4. Still projected displays

Visual displays that are without movement are known as still projected displays. These displays rely on optical projectors. The visual aids involved in still projected displays are discussed in this section.

5. Overhead projector

An overhead projector (OHP) is a machine which projects light from a lamp through a transparent surface, onto a wall or a screen. The transparent surface (transparency) is the small sheet of plastic that has text or drawing on it. This writing or a drawing appears much enlarged and in exact form and shape, on a blank surface (wall). It helps a teacher to explain a point to the learner with the help of a visual.

Principle: Light is furnished by a 500 to 1,000 watts lamp, and is reflected upward to a projection stage or screen and into an objective lens, which is centrally supported above the stage. The light strikes a mirror and is reflected onto the screen behind the operator. The lens and mirror stand above the machine. The machine may rest on a desk or it may be on a projection stand, or table. Thus, the teacher may sit or stand in front of the class. The screen can be a flat, smooth, white/pale wall. A good and inexpensive screen can also be made from a hardboard. The rough side of the hardboard should be covered with two coats of white emulsion paint. This board may be hung in one corner of the room. The screen should not be reflective.

An overhead projector provides educators with an easy, low-cost interactive environment. Plastic sheets are used as teaching material, which facilitate the educator

to write on them with the help of non-permanent and washable coloured board pens. These transparencies can be pre-printed and used in repetition. Thus, they save a lot of time for the teacher or any other user.

The overhead placement should be such that it is convenient for the instructor to use. Further, the educator should be able face the class, to facilitate better interaction with the students. Since the projector is able to enlarge small script, the educator can write in his own desired font size. He does not need to continuously stretch his arm to write on the board. Unlike a blackboard, time is not wasted in erasing what has been written. Once transparencies are used, they can be restored to their original unused state after washing them with soap and water.

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Advantages of overhead projector

An overhead projector has the following advantages:

- When using OHP, a teacher can always face the class and thus maintain eye contact with the students.
- Pre-prepared matter can also be displayed with the help of OHP.
- OHP transparencies can be used repeatedly, which gives the teacher more time to engage in discussions with learners.
- The subject displayed on OHPs also helps learners to retain the lesson learnt.
- Many techniques (free-hand writing or drawing, typing, photocopying, desktop publishing and so on) can be used to prepare OHP transparencies.
- In comparison to other types of visual aids (e.g., charts), overhead transparencies are relatively compact and can thus be easily stored in suitable boxes, large envelopes, folders or files.
- All the lights of a room need not be switched off when using an OHP. This enables students to take notes.
- Small objects may be shown on the machine simply by placing them on the projection stage. They will be projected as silhouettes.
- No extra projectionist or person is required to project.
- The clarity of display in a OHP is higher than that on a blackboard.
- The instructor may prepare an entire course which is time saving.
- The operation of OHP does not require any technical skill and knowledge making it is user-friendly. Moreover, it is also clean and quiet.

Disadvantages of overhead projector

The disadvantages of overhead projector are as follows:

- OHPs run on electricity and require white surfaces for projection.
- When compared to chalkboards, their maintenance is somewhat time-consuming.
- They have a tendency to break down at times.
- Light from the projector can be irritating.
- Sometimes, positioning of the screen becomes difficult.
- Any error in spelling or pictures are magnified and distract the participants.

- Efficient usage of OHP requires sufficient time, effort and display material in the form of transparencies.

6. Slide projector

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Slide projector or diascope is popularly known as 'magic lantern'. It is an optical aid to the process of teaching. It is used for projecting pictures from a transparent slide onto a wall or a screen. Since it is used to project slides, it is called a slide projector. A slide projector is useful for small as well as large groups. It comprises four sections: (i) electric incandescent light bulb or similar source of light (usually fan-cooled), (ii) reflector and 'condensing' lens to focus the light onto the slide, (iii) a holder for the slide, and (iv) a focusing lens. It helps to project a larger image of the slide. When the figure or illustration is very small and it is required that the whole class should see it clearly, a transparent slide of this small figure is prepared. The slide is placed inverted on the slide carrier of the magic lantern (slide projector). The slide projector projects its erect image on the wall or screen by enlarging its dimensions and making the vision sharper and clearer. A coloured slide or filmstrip is more attractive.

Filmstrip projector works on the principle of direct projection. Light rays emerge directly from the projection lamp or other source of illumination, pass through condenser lenses, the filmstrip/slide and the objective lens to produce an enlarged image on the screen. The source of light can be an electric bulb or a kerosene or petromax lantern. Images are directly projected as they are, when a filmstrip/slide is used. This allows them to be projected even if the room is semi-darkened, at a desired speed.

Advantages of slide projector

The advantages of slide projector are as follows:

- **Educational information:** The slide projector has immense educational value because of the variety of information can transmit like maps, drawings, diagrams, photographs, etc. It enables a subject to be taught clearly and in detail. To make it more effective, a tape recorder can also be used along with the slide projector. The teacher can record a narration on a tape recorder and synchronize it with the slide projector such that it gives the necessary commentary pertaining to the slide without the teacher's intervention.
- **Motivational force:** It arouses the attention and interest of students. A projected image is more effective in capturing the attention of the audience for a longer duration. It is the best way to motivate students towards better learning.
- **Easy to transport:** Slide projectors are light and easy to transport.
- **Easy to use:** Slide projector is easy to use. It is a simple device that can be operated and focused using a remote control.
- **Consistency of images:** Images can remain on the screen as long as the students want them to.
- **Interesting:** The whole activity arouses interest in students.
- **Economical:** There is no wastage of time and energy.
- **Inexpensive:** Slide projectors are not costly. Any school can afford it.
- **Non-fragile:** It is not easily broken.
- **Non-inflammable:** It is non inflammable.

Disadvantages of slide projector

The disadvantages of slide projector are as follows:

- **Not always suitable:** Every type of material cannot be projected by the slide projector.
- **Not excessive use:** Since glass slides are becoming expensive now, the slide projectors may not be used excessively.

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7. Filmstrips

Filmstrips may be used in slide projectors as well as filmstrip projectors. Instead of using different slide for different topics or more slides for one topic, one strip or piece of still film is prepared. Slides produced on films are called filmstrips. A filmstrip is made of cellulose acetate and is 16 mm or 35 mm wide and 2 to 5 feet long. It usually consists of 40 to 100 separate pictures related to a particular subject, topic or theme. These pictures may be connected with series of drawings, photographs, diagrams, or combination of these. Such a strip or a piece of still film serves the same purpose as served by a number of slides.

In a slide projector we use separate slides, while in a filmstrip a strip of film (having many slides) is exhibited. The filmstrip projector is a recent development and it is becoming a more popular means of pictorial representation. Various commercial firms sell such readymade filmstrips for different topics of different subjects for different age groups. Filmstrips are also available on loan, free of charge from the Central Film Library, Central Institute of Educational Technology, NCERT.

Advantages of filmstrip

The advantages of filmstrip are as follows:

- It is easy to operate.
- A frame may be held on the screen as long as it is required.
- Strips of educative value, according to special needs, are available.
- It is possible to review previously exhibited frames again for reference.
- It can be used to transmit varieties of information.
- Now filmstrips are available with commentary recorded on tapes.
- The teacher can also record his comments and play the tape, synchronizing it with the frame of the filmstrip.
- Filmstrips are light in weight and easy to carry.
- Even a low voltage lamp can serve the purpose while using filmstrips.
- With every filmstrip projector, a 2 × 2 slide attachment is also provided and the same projector can also be used for projecting slides.
- Its use does not restrict the normal flow of conversation between the teacher and the class.
- Numbered filmstrips are advantageous for the learner, especially when one or two students use them in independent work. Numbering makes it possible to locate the frames.
- Since filmstrips present pictures in a fixed sequence, they provide a structure for the subject.
- Filmstrips provide economic means of presenting information.

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Disadvantage of filmstrip

Filmstrips lack audition: The teacher has to work like a commentator along with the filmstrip being projected.

8. Epidiascope

An epidiascope projects small opaque images of maps, photographs, pages of a book, etc., on a screen, in an enlarged manner. It is a combination of an episcope and diascope. The epidiascope works by reflecting light from an opaque surface (opaque projection). A lamp illuminates the material. The image is reflected by a mirror, through a lens onto the screen.

It is used for making classroom teaching more interesting and effective. This device does not require slides. Teaching aids like maps, charts, small pictures, graphs, line drawing are directly projected on the screen. The size of small pictures can be magnified or enlarged by the epidiascope. In epidiascope slides, transparencies are also used. It also facilitates books and original matter or teaching aids to be directly projected on the screen. Therefore, the epidiascope is commonly used in classroom presentations. It also makes lesson interesting and effective.

Advantages of epidiascope

The epidiascope has general and specific advantages:

General

- Easy to handle
- Projects a wide variety of materials in a magnified form
- The colour of object is also transmitted onto the screen
- Teachers can have time for class discussions
- Often, an excellent outlet for creative work
- It has a robust mechanism

Specific

- Photographs and pictures can be projected (these are difficult to draw)
- Teaching material can be directly projected from books or other original sources
- Small objects can be projected after demonstration

Disadvantages of epidiascope

Some of the limitations associated with epidiascope are as follows:

- Pages must be flat when books are being used
- Material sensitive to heat is to be avoided
- Projection by reflected light is less efficient and requires total darkness
- Machine is too bulky to be easily carried
- The operator cannot face the audience
- Projector must be kept near the screen
- Expensive in terms of cost

Precautions to be kept in mind while using epidiascope

- Before teaching, the epidiascope and the screen should be set in the classroom properly

- It requires a dark room for projecting teaching aids so that proper arrangements should be made for the purpose
- The size of teaching aids should be according to the size of the epidiascope's aperture
- The teacher should give his comments simultaneously while projecting the teaching material
- The teacher should make use of a pointer for indicating the aspects of a diagram or picture

9. Microfilm and microfiche

Microfilms are 35-mm films, which contain photographed reading material. Each frame contains materials of one page. The rolls of microfilm are placed in microfilm readers which project each page on a revision screen. Microfiche is a miniature form of microfilm. This is a sheet of film carrying many rows of images of printed matter. Microfiche is reduced in size, in comparison to microfilm. Both microfilm and microfiche can be stored, retrieved, and projected for reading. They have great educational potential.

10. Electronic resources

Electronic resources have also made their foray into the field of education, in the last century. In 1920 it was the radio, and in 1950 the television began to be used widely as educational tools. The usage of radio and television in broadcasting for education has assumed three general approaches:

(i) **Direct class teaching:** Where temporarily, teachers are replaced by broadcast programming substitutes

(ii) **School broadcasting:** Where complementary teaching and learning resources are offered by broadcast programming

(iii) **General educational programming:** Which offers general and informal educational opportunities.

This section would discuss both of these electronic resources in brief.

11. Radio

Radio basically transmits signals through free space enabled by modulation of electromagnetic waves having frequencies lower than visible light. This is done by oscillating electromagnetic fields that pass through air and the vacuum of space, which makes electromagnetic radiation travel. By systematically changing (modulating) some property of radiated waves, such as amplitude, frequency, phase, or pulse-width, information is carried from one place to another. The oscillating fields induce an alternating current in the conductor, when radio waves pass an electrical conductor. This can be detected and transformed into sound or other signals that carry information.

According to Butcher (2003), 'Radio has been used in education ever since its availability.' Pennycuick (1993) of the Centre for International Education at the University of Sussex, states more specifically that interactive radio instruction (IRI) is characterized by 'highly coordinated' instructional materials and delivery strategies. It includes elements of active participation on the part of the students. In spite of technological advancements, radio remains the key media to which most rural people have access. Educational radio initiatives in different developing countries were effective in providing topical programmes and reaching large numbers of learners rapidly. Further, radio broadcasting is one of the greatest educational tools, which has ever been placed at the disposal of civilized man. It

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is an instantaneous and universal means of communication. Broadcasting is relatively new, as far as its age is concerned. However, in a short period, it has been determined definitely that it can perform three separate major functions— (i) it can sell goods and services; (ii) it can provide entertainment; and (iii) it can make education, culture and information available. Radio can be educative in formal as well as informal situations. The medium of radio is very effective for broadcast of lectures by eminent educationists, scientists, historical statements, etc. It is a rich medium for broadcast of drama, stories, commentary, sports news, educational news and educational programmes. It is popular in both urban and rural settings. Radio programmes are generally prepared on topics which are more suitable to verbal communication. In India, AIR and other radio channels render valuable assistance to classroom instructional programmes. The limitations of radio broadcasting are:

- It uses only the sense of hearing.
- It is one-way communication.

12. Television

Education television excels as a medium of large-scale delivery of information. In the modern times, television is an integral part of the culture. TV provides entertainment, news, education, culture, weather, sports, etc. Television is the most powerful medium of mass communication that has ever existed and it has revolutionized our life in many ways. It appears that the future television is going to have definite positive contribution to make children's life in the classroom happy (M. J. Apter). Television is already widely being used in schools. It is a powerful medium of communication that calls for the use of auditory as well as visual sense of learners in receiving education.

Television offers many benefits to children and learners in general, including:

- It enables the sharing of cultural experiences and thus brings the world closer.
- In Indian setting, specifically where togetherness is valued, shared viewing of programmes gives the family members of all ages, an opportunity to spend time together.
- Television can be used by parents as a catalyst to get children into the habit of reading. This can be done by following up televised programmes through books on same subjects.
- Exhibiting social responsibility, television can spread cultural and family values in an implicit manner.
- Television programmes provides an opportunity to parents to explore and discuss controversial or sensitive issues with children.
- Learning skills and even socialization of young children can be developed through balanced and efficient use of educational programmes.
- Young people can become more aware of other cultures and people through news, current events and historical programming.
- Documentaries can give rise to judgmental thoughts concerning society and the world.
- The world of art and music can be opened for people by cultural programming on television.

- Televised instructions have the potential of improving the process and products of learning as they involve thorough planning, systematic presentation and integration of a wide range of audiovisual material and appliances.

Television is an important aid to teachers, supervisors and educational planners. It has been utilized for informal and formal education and for distance and correspondence education. There are some limitations associated with television in the form of one-way communication, impersonal nature, passive learning, no interaction, and expensive media.

India, like other developing countries, has been using television for enriching and improving the quality of education at every level. It has been particularly used for expanding educational facilities, particularly in rural and backward areas, for normal and informal systems. New dimensions have been added to the use of television for instructional purposes with the advent of satellites. So far there has been use of open circuit television in India. Closed circuit use of television for educational purposes has not been explored much. Closed circuit television broadcasting is a sort of micro-level local arrangement limited to a single school, or several schools located in a particular region. The schools are connected by a cable or microwave system. The telecast cannot be received outside the selected network and signal is not required to meet the commercial broadcasting regulations.

13. Closed Circuit Television (CCTV)

Televisions systems have assumed an important place in our daily life as they are one of the most indispensable means of information and communications. Television broadcasts are a form of 'open-circuit system', which are accessed by indefinite number of people. Another form of circuit systems are 'closed-circuit systems', which are designed to provide video to specified viewers. CCTV system is a system that has been primarily designed for surveillance purposes. CCTV is very useful in areas associated with security, disaster prevention, energy and manpower saving, sales promotion and information services, production management, industrial measurement, medical care, education and military fields. Specifically in the field of instruction and education, CCTV has a wide applicability. It enables schools or institutions to develop and allow their students to access specific programmes that are needed for their overall growth and development.

The definite advantages offered by CCTV have been highlighted as follows:

- Many CCTV systems are suited for distant viewing. The images broadcasted by them probably comprise photographs from space, snapshots of furnaces or other industrial equipment, biological hazards, etc.
- The use of CCTV would ease the shortage of good instructors or teachers, reduce instructional costs, provide uniform instructions to a large number of students simultaneously, and facilitate repetitive representation of resource persons or material.
- The use of CCTV provides a platform for desired exchange of man-material resources, learning and instructional activities, courses and events not only among students and staff of the same institution, but also among various institutions on the network of CCTV.

14. Video Cassette Reorder

The video cassette recorder (VCR) is an electronic device that plays VHS or beta tapes containing recorded movies and other programmes (like music videos and exercise videos).

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A VCR has to be connected to a TV for viewing a recorded programme. A number of variants of VCR have been produced over the years, in addition to the traditional home VCR. These include combined 'all-in-one' devices such as the televideo (a TV and VCR in one unit) and DVD/VCR units and even TV/VCR/DVD all-in-one units. A camcorder merges a video camera and VCR in one machine.

VCR can not only play pre-recorded cassettes, but also record any programme and replay it. Thus, educational television programmes can be recorded and later on shown to students. With the help of video cassette recorders, educational and other useful events can be recorded for teaching purposes. The replay of those programmes in colour makes viewing very interesting and leaves a considerable impact on viewers.

Advantages of VCR

The advantages of VCR are as follows:

- The operation of a video cassette recorder is very simple.
- It is portable and can be moved from one place to the other easily.
- Knowledge acquired by video is permanent.
- It is helpful to students in providing them knowledge of social and political conditions of different countries.
- It is helpful in developing the thoughts and reasoning power of students.
- It is equally useful for children of varying abilities.
- The teacher can remove the doubts of students simultaneously, which is not possible in a television lesson.
- The teacher can control video presentation.
- Pictures on a VCR can be repeated as many times as required.
- Video films on different teaching subjects are easily available.

15. Motion picture

A motion picture (sometimes called a movie or film) is a series of still pictures (frames) usually 8 mm or 16 mm in size, taken in rapid succession. When projected by a motion picture projector, they give an illusion of motion (Gerlach and Ely, 1980) Films vary in length from one minute or less, to 50 minutes or more. If a 6-mm motion picture runs for more than 50 minutes in length, it is usually stored on two or more reels. The speed at which a film is projected varies with the format of the film. A sound 16-mm film is projected at 24 frames per second (fps) and super 8-mm films, at 18 fps. Therefore, it is possible to show films in such a manner as to create three types of images:

(i) Normal motion

(ii) Fast motion

(iii) Slow motion

Motion pictures are very useful in teaching various subjects like literature, drama, history, geography and science subjects. Motion pictures motivate students as they enjoy the medium. They bring people, country, events, etc., on the screen. However, they are expensive and subject to damage, if used extensively.

Hoban and Ormer have revealed the following educational advantages of motion pictures:

- Good films can be used as sole means of imparting certain factual information and developing performance skills.
- Pupils will change or develop attitude and opinions, as a result of viewing films.
- Pupils will learn more from films if they are properly prepared and motivated.
- Learning will increase with repeated screenings of a film. Short single-concept films have certain advantages.
- Pupils can develop the will of problem-solving by viewing well-produced films.
- The ability to learn from films will increase with practice.

Amidst these advantages, it should not be assumed that learning would occur only by watching films. The method of presentation may be inadequate or the film may not be suitable for students of a particular age. Therefore, sufficient care should be taken while selecting a film. It should be borne in mind that films with built-in viewer participation and repetition of key points increase learning. If these factors are lacking in a film, then these should be supplied by the teacher during or immediately after screening of the film.

16. Tape recorder

An audio tape recorder, tape deck, reel-to-reel tape deck, cassette deck or tape machine is an audio storage device that records and plays back sounds, including articulated voices. It usually uses magnetic tapes, either wound on a reel or in a cassette, for storage. In its current form, it records a fluctuating signal by moving the tape across a tape head that polarizes magnetic domains in the tape, in proportion to the audio signal. There are many types of tape recorders in existence, from small hand-held devices to large multi-track machines. A machine with built-in speakers and audio power amplification to drive them is usually called a 'tape recorder'. If this machine does not have the record functionality, it is a 'tape player'; while one that requires external amplification for playback is usually called a 'tape deck' (regardless of whether it can record).

The invention of tape recorder has brought about a revolution in the teaching–learning process. Its main function is recording and reproducing of sound. Microphone, amplifier and reproducer are its three parts. It is an instrument which is used to record speeches, songs, music, etc. It may be played back at any time and any number of times. Teaching with tape recorder is an extension of a teacher's work.

The educational utility of tape recorder in education has been highlighted in the following points:

- There is no fixed time schedule for tape recorded programmes and thus, no changes are required in the school timetable. It can be used anytime and anywhere.
- It helps in supplementing the educational output of radio and television broadcasts and guest lectures.
- Recorded educational programmes can be used for instruction in schools and colleges.

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- It helps students in developing oratory skills by repeated practice. Further, it helps in overcoming poor speech habits and correcting speech defects.
- Tape recorders are immensely used in developing conversation skills, expression power and techniques of dramatization.
- They are significantly used in teaching specific subjects like music, dramatics and language.
- They are also used in organizations for conducting and evaluating various co-curricular activities.
- They may help in modification of behaviour and for encoding classroom events.
- They can supplement other educational tools like projectors, video players, etc.

A tape recorder is very easy to operate and useful in group teaching as well as individual learning. It is also easy to erase a recording, if not required.

17. Computer

A computer is an electronic device that accepts data, performs operations on it in a sequence (decided by a programme) and gives the resulting output. Computers can be of various sizes and types like mainframe computers, mini-computers and microcomputers. Apart from size, computers are differentiated according to their specifications. These specifications include the amount and type of storage, capabilities of the central processing unit (CPU), and type and nature of the peripheral equipment (such as disc storage) that can be connected to it.

A computer has several applications in instructional situations. It is used to analyse the level of knowledge in entry level students, at the time of enrolment. It is also used to plan and print individual programmes, monitor a student's progress and compile tests and scores. Computers are aid to the instructional process of education. In terms of technological advancement and educational utility, they have surpassed all the audiovisual aid material and equipment. The demand for computers is increasing day by day, at all levels of education.

In various forms and at various levels, computer technology has been able to make a strong impact on education. The advantages of computers in education include efficient storage and rendition of information, quick information processing, and the most important benefit being saving of paper.

Some of the characteristic features of application of computers in education are:

- Modern systems of education have been greatly influenced by the usage of computers. Students find it easier to refer to the Internet for searching information rather than look for it in books. The process of learning is not limited to learning from prescribed textbooks, it is much more.
- Computers have played an essential role in promoting education to a large number of learners. By taking education outside the classroom, this technology has made the dream of distance learning a reality. It has been able to bridge geographical barriers in the process of education. In other words, computer networking has brought physically distant locations closer. This has benefited all those, who are in the field of education.
- Efficient storage and effective presentation of information has been enabled by use of computers. There are several presentation software like PowerPoint and animation software like flash, which have proved to be of immense help to teachers while delivering information.

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- Computers have the potential to add an element of fun to education. It is a good break from the monotony of 'chalk and talk' classes. They can turn out to be a brilliant aid in teaching, if used properly. Computers facilitate making the process of learning interactive and interesting by audiovisual presentation of information.
- Computers have helped in going 'green'. They help in saving paper by facilitating an electronic format for storage of information. There have been instances where schools have gone far and even collected homework and test assignments as soft copies and thus saved paper. It is well known that electronically erasable memory devices can be used repeatedly. They offer a robust storage of data and reliable data retrieval techniques. Computer technology thus eases the process of learning.
- The Internet can play a significant role in different aspects of education. Being a colossal information base, it can be used well for retrieval of information on a wide variety of subjects. There is no subject taught to students for which the Internet cannot be used to gather information.

Though computers have contributed in different spheres of education, the most important contribution is in the domain of instruction; in the form of Computer Assisted Instruction (CAI) and Computer Managed Instruction (CMI). Here, it needs to be emphasized that computers should be used as an educational tool, rather than a means of education. Nothing can replace interactions between students and teachers.

LIMITATIONS OF EDUCATIONAL TECHNOLOGY

From our discussion so far, we have understood that educational technology is the effective use of technological tools in learning. As a concept, it concerns an array of tools such as media, machines and networking hardware, as well as considering underlying theoretical perspectives for their effective application. The limitation of educational technology, hence, are the limitations of the tools that are used to serve identified educational goals.

1. Limitations of radio broadcasting

The different limitations associated with radio broadcasting are:

- It is not a flexible medium, and there is no face-to-face interaction. It is a one-way communication process.
- It cannot be effectively used for all subjects, especially science subjects.
- Production of radio programmes requires expertise.
- It is only an auditory presentation.
- Radio cannot offer personal contact, unlike the classroom teacher.
- Radio lessons cannot account for the presence of listeners (as with books) or whether they are listening or not.
- Radio cannot take into account individual differences in the class. The broadcasts cannot do much more than assuming that every pupil at a certain level is be able to comprehend everything. Furthermore, immediate feedback is another thing which is missing in the radio broadcast, where there is faceto-face discussion.

To overcome these drawbacks, preparation, supporting materials and follow-up exercises are recommended when possible (McIsaac and Gunawardena, 1996).

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2. Limitations of television broadcasting

The potential of television, for that matter any media, depends on its utilization. In spite of the different advantages associated with television, it has its own set of limitations. Some of the distinct limitations associated with television are:

- It provides one-way communication. There is no interaction and hence it does not offer any possibility of immediate feedback. This limits the interest and enthusiasm of learners.
- Television broadcasting does not have several features available in printed media such as learner-control and self-pace.
- There is no face-to-face contact and exchange of abstract ideas that need interaction and deep explanation.
- In terms of cost effectiveness, the cost of production, equipment and transmission per hour are very high in comparison to other media.

3. Limitations of teleconferencing

Teleconferencing has certain inherent limitations due to which it is frequently used in distance education. Some of these uses are as follows:

- Teleconferencing requires a large and efficient telephonic, radio and television network throughout the country.
- The chances of technical breakdown are quite high.
- Telephone charges are very high, which all educational institutions cannot afford.
- Teleconferencing is a costly technique of instruction. It requires sophisticated technology and expert human power.
- Teleconferencing is a mode of group communication, so the willingness of each participant is an essential requirement, but this is generally lacking especially among distance learners.
- Teleconferencing has its limitations, but these can be overcome to a great extent by planning, organization, corrective measures and using appropriate content and management.

4. Limitations of computer assisted instruction

Although computer assisted instructions are very useful in various ways, they also have their limitations that are very difficult to overcome. These limitations are as follows:

- It will harm the equity of education and increase educational costs. Low budget schools and low-income students usually cannot afford a computer. Therefore, for poor schools and students it will create unfair educational conditions. On the other hand, expensive hardware and software also becomes a big obligation for schools.
- Basic technological knowledge is necessary for both teachers and learners to use this technique. No student can benefit from the computer if he does not know how to use it.
- Computers cannot handle unexpected situations. Due to the limitations of a computer's artificial intelligence, computer technology is unable to deal with unexpected learning problems and respond to learners' questions immediately as teachers do.

- There are many disciplines which have no instructional package available or these packages are still in planning or developmental stages.
- This innovation may dehumanize the educational system by making teaching–learning process lifeless and mechanical.
- Physical problems, like vision disorders, are reported in individuals as a result of continued computer usage.
- Sometimes, the mechanical use of computers may prove boring and tiresome.
- It is very difficult to adjust the curriculum and timetable of schools in accordance with CAI.
- All students are not able to access CAI, hence it may discourage them and give them a feel of inferiority.

Reasons for Failure of Educational Technology in India

While field research exposed us to a wide variety of perspectives on educational technology Below are four major reasons why technology initiatives often fail in India:

- **Knowledge gaps:** A limited knowledge of technology's potential and specific capacities in schools leads to an underutilization of the technology that is present in schools. Clear learning goals for technology in the classroom are not established, and rather than focusing on highly marketable computer literacy skills, students use technology in less impactful ways.
- **Resource limitations:** Inconsistent cash flow from low-income parents face cost constraints that makes it difficult to acquire all the resources necessary to maintain and maximize the use of technical tools.
- **Cultural barriers:** Some implementations are stalled because some view technology as a marketing tool to be preserved rather than an educational tool to be used. There is also a reluctance to try new devices in front of students when the teacher-centered pedagogy places her as the expert in the class.
- **Logistics challenges:** Some schools have limited infrastructure and place many academic demands on students. They may have trouble finding a room or adequate time to dedicate solely to the use and adoption of new technology.

Research also revealed a number of opportunities to improve education through technology for all users in low-income schools in India. These opportunities call for innovations in content development, hardware development, service elements of tech providers, and socio-cultural integration in the lives of individuals.

SUMMARY

- Educational technology (ET) is a rational and realistic quest concerned with every feature of design and most favourable organization of educational systems and sub-systems. It governs the relation between inputs and desired results and the allotment of resources to get those results.
- Educational technology is comprehensive. It is associated with all aspects of the educative process: methods, teaching strategies, learning materials, handling of various equipment, etc.

Check Your Progress

11. What are still projected displays?
12. What is the main drawback of filmstrips?
13. What are the instructional applications of a computer?
14. Why is radio considered to be a mass media?

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- Educational technology is the scientific use of methods and methodologies employed to achieve the goals of education.
- In early days, the concept of educational technology was limited to audio-visual aids meant for direct teaching–learning processes. However, in the present times, with the advent and predominant usage of technology in education, the scope has been well understood and expanded.
- Educational technology includes, but is not limited to, software, hardware, as well as Internet applications and activities.
- In Indian educational system, there is a wide scope for educational technology, i.e., to educate the masses, store historical information, collect large amount of information, as an alternative to hazardous, costly, or non-feasible experiments by simulation.
- Educational technology also provides the facility of distance education methodology. It provides an alternative method of learning for those who struggle to learn using traditional methods.
- Educational technology can be used to address multiple intelligences and also to provide authentic learning experiences to students. It helps to prepare students to be performance-oriented.
- Educational technology can be used to enhance the subject-matter knowledge of students with the help of personalized instructions. It helps to improve the outlook of students toward learning and prepares them professionally. It also proves to be cost effective.
- In an effort to reach the set objectives, educational technology as a discipline adopts three different approaches: (i) hardware approach, (ii) software approach, and (iii) systems approach.
- Educational technology, based on hardware approach has its origin in physical science and engineering; and is based on the concept of service, i.e., use of technology in education.
- The software approach of educational technology has its origin in behavioural sciences. Having originated from the theories of learning, this type of approach can help in a big way in the development and utilization of programmed learning material, teaching–learning strategies and various types of software programmes and material.
- The third approach, i.e., systems approach refers to the methods of performing tasks in a systematic way to design, carry out and evaluate the total process of education.
- The basic assumption of systems approach is that teaching is a science; a professional activity aimed at achieving certain educational objectives.

KEY TERMS

- **Educational technology:** The application of scientific knowledge and learning and the conditions of learning, to improve the effectiveness and efficiency of teaching and training is known as educational technology.
- **Media:** Audio or visual or both audio-visual media, such as radio, tape recorders, charts, posters, films and educational television used as teaching aids to supplement effective teaching and promote better learning is known as media.

- **Teaching technology:** It is a form of educational technology concerned with making the process of teaching more systematic.
- **Instructional technology:** It is a systematic way of designing, carrying out and evaluating the total process of learning and teaching, in terms of specific objectives based on research, human learning and communication.
- **Non-projected displays:** Every type of visual display that can be shown to a group of students without the use of any optical or electronic projector is known as non-projected displays.
- **Hook and loop boards:** These boards use special material (like velcro), with many tiny hooks attached to it.

ANSWERS TO 'CHECK YOUR PROGRESS'

1. Educational technology is a scientific blend of methods and processes, designed to achieve educational goals. It comprises identification of educational goals systematically and recognizing the diversity of learners' requirements.
2. Technology of education means applying resources of the knowledge of science, systematically, to the process of learning. Every individual has to go through this process of learning so that he/she can acquire and use knowledge. Technology in education refers to the use of technological hardware in education.
3. The main objectives of educational technology are:
   (i) To modernize learning methods and techniques according to the changing world.
   (ii) To bring desirable changes in behaviour of teachers and pupils by improving teaching, learning and evaluation conditions.
   (iii) To make classroom teaching clear, effective, objective and scientific.
4. The three types of educational technologies are: (i) teaching technology, (ii) behavioural technology, and (iii) instructional technology.
5. The basis of different types of educational technologies are as follows:
   (i) Teaching technology is based on philosophy, psychology and science
   (ii) Behavioural technology is based on psychology
   (iii) Instructional technology is based on psychology and science
6. Lumsdaine suggested the following three distinct approaches to educational technology:
   (i) Educational technology I or the hardware approach
   (ii) Educational technology II or the software approach
   (iii) Educational technology III or the systems approach
7. The hardware approach implies the use of mechanical materials and equipment in the domain of education.
8. Non-projected displays comprise every type of visual display that can be shown to a group of students. These types of displays do not make use of any optical or electronic projector.
9. Felt boards, hook and loop boards, and magnetic boards comprise adhesive types of displays.

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10. Charts offer the following advantages:
    - Clean presentation
    - Portability from one place to another
    - Availability of material for summing up
11. All visual displays, which do not incorporate movement and require an optical projector of some nature in order to show them to a class are known as still projected displays.
12. The main limitation of filmstrips is that they lack audition. The teacher has to do the work of a commentator.
13. Instructional applications of computers lie in software packages used by students and faculty in classrooms and computer labs, course assignments, tutoring modules, supplement instructions.
14. Radio is a form of mass media because it reaches remote corners of the country and has no physical hindrance. It also imparts language education and provides entertainment, and disseminates information to listeners of all types.

QUESTIONS AND EXERCISES

Short-Answer Questions

1. What are the three components of educational technology as per S. P. Ruhela?
2. What according to Hilliard Jason are the objectives of educational technology?
3. What purposes does technology serve in education?
4. Write a short note on technology in education and technology of education.
5. What is the key function of educational technology, according to Henry Ellington?
6. List some audio-visual aids used in the hardware approach.
7. Why are wallcharts so widely used in every sector of education and training?
8. What is a motion picture?

Long-Answer Questions

1. Explain the concept of educational technology.
2. Discuss the contribution of educational technology to education.
3. Differentiate between instructional technology and behavioural technology. Give examples for both.
4. Explain the scope of educational technology and clarify the importance of this subject keeping in view the conditions of developing countries like India.
5. What are the various forms of educational technology? Differentiate between them.
6. How does the knowledge of educational technology aid the teacher in the teaching–learning process?
7. What is behavioural technology? Discuss its various uses and applications.
8. Explain in detail the hardware and software approaches to education and their scope in Indian context.

7. How can systems approach be applied in a classroom? Support your answer with an example.
8. Discuss the uses of tape recorder as a teaching aid. Give examples to elucidate your answer.
9. Give a detailed account on the role and utility of computers in the field of education.
10. Discuss the role of non-projected displays in the teaching–learning process.
11. Television has brought a revolution in the field of instruction. Explain this statement according to the current scenario.

NOTES

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UNIT 3 EDUCATIONAL SOCIOLOGY

Structure

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INTRODUCTION

The term sociology has been derived from the two words: *societus* which means society and *logos* which means science. Thus, from an etymological point of view sociology is the science of society.

Auguste Comte, who is known as the father of sociology, used the term for the first time in 1937, while delivering a series of lectures. He introduced sociology as a fundamental science in his book *Positive Philosophy* and employed scientific methods to collect data about mankind.

Children in society differ from each other in terms of their gender, family, social environment, class, caste and racial backgrounds. They are exposed to different child rearing practices that are known to have an indelible impact on their personality and cognitive abilities. These differences among children influence and are themselves influenced by classroom processes in a manner which reinforces differences among them, facilitating learning among students from a favourable background and at the same time, inhibiting learning among those from a relatively disadvantaged background.

Here we discuss the meaning, nature and scope of educational sociology and the relationship between society and education. In this unit we seek to understand the manner in which differential socialization practices and patterns in a society shape people's self-concept and personality, thereby leading to differential educational experiences in schools. The differences which the students carry from their homes to the classrooms have an important bearing on their performance and achievement levels in education.

UNIT OBJECTIVES

After going through this unit, you will be able to:

- Reiterate the meaning, nature and scope of sociology
- Discuss the affect of education in the development of society

- Explain the meaning of socialization
- State the stages and types of socialization
- Discuss the theories of socialization

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MEANING, NATURE AND SCOPE OF EDUCATIONAL SOCIOLOGY

Sociology, according to Duncan, is the scientific study of dynamic processes of interactions of person and the patterns which form in relation to biological, psychological and cultural influences. It studies social phenomena, social organizations and cultural patterns. It seeks to discover the laws that govern social relations and the forces that develop the personality of an individual. It is built upon the study of the behaviour of ants, birds, and primitive men. It has drawn for its material on social history and social physics. It has received impetus from biology and psychology. Sociology is based upon two fundamentals:

(i) Each individual is born into a cultural world created by his predecessors. This world has a continuity of existence. It appears to be independent of individuals who enter or leave this culture stream.

(ii) The individual becomes, as he grows up, identified with the vast body of culture, and finds his role in it. He further seeks to modify it in his dealings with the world around him. Thus, he becomes not an individual that he was at birth, but a person.

Meaning

Educational sociology is a synthesis of education and sociology. It is the study of the principles of sociology of education. It is a science born of sciences. According to E. George Payne, educational sociology is an applied science in the field of sociology. It is concerned 'with the effect of learning on group life and in its turn the effect of smaller group life upon the larger group', since the subject matter of educational sociology is the process of social interaction. 'Of both the individual and his social environment', says F. G. Brown, it is 'neither education nor sociology alone; it is education and sociology when these are both considered as a total educative process'. Educational sociology utilizes all that has been learn in both fields but joins them in a new science which applies sociological principles to the whole process of education, including subject matter and activities, method, school organization and measurement.

Nature

Educational sociology is not merely theoretical, i.e., it does not merely study the forces of interaction between the individual and the society or the group, but it is also practical because besides studying the interacting forces, it tries to regulate and control the interacting forces.

It is the job of educational sociology to find out ways and means as to how to manipulate the educational process to achieve better personality development and thus, better social control.

Importance

There is, explains Brown, 'a constant interaction of the individual and his cultural environment. He is influenced by it. This constant interaction, which is the subject-

matter of educational sociology, is the basic pattern of life'. Any attempt, therefore, says Brown, to understand and foster the development of the individual and every effort to provide the means and agencies for such development must be based upon an analysis of this two-way process in which the individual and the forces external to him are in continual interaction.

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Also, this interaction is inevitable. Man must be able to control the physical and social forces around him if he is not to fall a passive victim in the continuous struggle for existence. By his inventions, he has been able to harness the forces of nature, and to eliminate time and distance through radio and television. But these physical forces, like the hydrogen bomb and atomic energy, unless directed by him wisely, would be let loose on him and destroy him and his social organizations. This is the vital, gripping and urgent problem of the day. As never before, man must learn the ways and means of controlling human behaviour, his own and others. It is, therefore, very important for an individual to have some grasp of the interrelations of nations and the social forces that influence their policies and activities.

Moreover, the knowledge of a total social life enables a child to choose his own patterns of social behaviour, to control his own behaviour patterns and of other individuals and groups. One's attitude towards state, religion and other communities is often the product of group associations. An intelligent study of these attitudes should guide one in adopting the right social attitudes.

Also, biology and psychology have, no doubt, probed and gauged the less tangible forces within man and helped us to understand him better. But man is an integral member of the many groups amongst whom he lives and moves. He cannot be understood independently of these: family, church, community, nation, means of communication, folkways and more. It is no longer enough for us to understand the individual without knowing or understanding the interacting forces that are working on him. Education must, therefore, go beyond the individual and reach out into the total social milieu.

There is a two-fold approach to the study of the development of the child; one from the viewpoint of the individual, and the other from that of the society. The individual approach is studied by biology and psychology, while the 'societal' approach concerns sociology. It is, however, contended that the individual approach is inadequate and incomplete, and must therefore, be reinforced by the societal approach also.

Both biology and psychology have been found to be incomplete in explaining human behaviour and, therefore, need to be supplemented by educational sociology. It was claimed in the beginning that biological factors had a direct bearing upon human behaviour. The 'mechanistic school' held that an individual was the product of innate characteristics and influences—both animal and human—which were beyond his control. But recent research has revealed that these were not the sole or primary factors, but only a part of the infinitely complete forces that develop and mould the individual. Some of these forces are inherited and predetermined; some are capable of modification to an appreciable extent; while others are the product of environment.

Psychologists, on their part, hold that human behaviour is determined by instincts. The 'instinctive behaviour patterns' are unlearned, relatively stereotyped and automatic. But observation of dogs, apes and infants stimuli, including the learning process, the nature of response to a specific action, conditions the behaviour of man or animal. Therefore, environmental factors and motivation are as important as innate characteristics

in the development of the individual. Psychiatry too has moved far away from what Freud thought it to be — to unravel the complex factors which are the causes of behaviour. Now psychiatry takes the whole physical and cultural background into consideration.

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Scope of Educational Sociology

The subject of educational sociology, as we have seen above, is the constant and dynamic interaction of the individual and his cultural environment or the basic pattern of life. It is, therefore, according to Dodson, interested in three things: total cultural milieu, the school as its agency and the educational process that conditions personality development.

- The social milieu can be broken up into, what Payne calls, social independencies. These are institutions, social groups, social customs and conventions. Through these the individual gains and organizes his experiences and these influence the evolution of the educational system because it equips the youth with knowledge and character to function and fit into society. Educational sociology deals, therefore, with groups like the family, school, team, club, union, community, church, state and the world.
- In the second place, it is concerned with the sciences which help to understand its function in its various aspects. It is consequently not concerned with aspects of any science which does not condition personality development. It is, however, concerned with the school which is a specific educational agency as well as with other social agencies like the family, the play group, the church, school union; club, social customs and the mode of living, which all of which contribute to the development of personality. The personality of an individual first develops in the family through the process of interaction. The business of educational sociology is to discover the area of interaction within the family and then in the school or elsewhere. Sociology would, however, confine itself to the history of the development of family and its various patterns. Sociology deals with social theory and group phenomena, but ignores the educative process and the educational agencies.
- Next to sociology, educational sociology is related to educational psychology. Both of them deal with the school as the agency of education. Both seek to determine and influence the school's effect upon individual behaviour. Both are applied sciences. Educational psychology is applied to learning, while the other studies impact the effects of learning. The latter deals with individual's relation to society While the former is interested in the techniques of building new habits into the child. The latter regards school as a social institution, a part of total social milieu; a form of collective behaviour and so shapes its curriculum, its teaching methods and its organization so as to prepare children for further participation in social life. In short, the former deals with the process of learning, while the latter deals with the problem of personality or behaviour.
- Psychology has been delving deep into the human mind to discover its peculiar pattern, but experimental studies of infant behaviour conducted by Gesell have led him to the conclusion that 'infants are individuals – individuals in the making as well as by birthright. The child's personality is the product of slow and gradual growth… mental growth is a patterning process, because the mind is essentially the sum total of a growing multitude of behaviour patterns.' The most significant recent development in psychology, says Brown, has been the increasing recognition of environmental factors in the development of personality and in the specific processes of learning. The borderline between psychology and sociology is not

sharp today. Moreover, educational sociology manipulates these environmental factors in the interest of interaction. Biology offers us the data that forms the basis of individual behaviour. Sociology studies how the laws of heredity and impulses determine an individual's interaction with others as individuals or as groups. Educational sociology goes a step further. It seeks to influence this interaction in harmony with social ideas.

Aims of Educational Sociology

Educational sociology, according to Herrington, has four specific aims. They flow from the larger aim, i.e., to achieve better personality development by influencing the processes of education. The specific aims deal with the various aspects of the total social milieu as well as the means, the methods, the curriculum and the agencies of education. The achievement of these aims is essential for the achievement of the larger aim. Educational sociology should explain (a) the role of the school in the community (b) the role of the school (c) and the social factors influencing schools. Secondly, it should understand democratic ideologies, cultural, economic and social trends that influence formal and informal agencies of education. Thirdly, it should estimate the social forces and their effects upon individuals. Fourthly, it should socialize curriculum. Lastly, in order to achieve these aims, educational sociology should encourage research and critical thinking, and adopt the results thus obtained.

SOCIAL DEVELOPMENT AND EDUCATION

To make the society worth living, education and society should be closely associated with each other. They should depend on each other for their growth and development. If we neglect this contact, education would remain ineffective and artificial and cannot be used as an instrument of social progress. Education, therefore, is a society in miniature, where students and teachers function together by a code of conduct that directs their behaviour. Organizations of activities like prize distribution ceremonies, athletic events, education assemblies, and clubs are integral part of the education culture. These are some important features of social life. To supervise the rights and duties of the members of education there are some authorities also. The relationships between the administrators and teachers, teachers and teachers, students and teachers, determine the efficiency of the education system. Thus, education is a social organization.

According to Nunn, 'Education may be called either a natural society or as an artificial society'. Education becomes a natural society when there is no possibility of break of the conditions of life both inside the Education and the society outside it. Nothing can be forced upon the children to learn. Regarding education as an artificial society, Nunn says, 'A nation's education, we might say, is an organ of its life, whose special function is to consolidate its spiritual strength, to maintain its historic continuity, to secure its past achievements, to guarantee its future.' Thus, education is an idealized epitome of society, which extends its boundaries to humanity at large.

The school, in order to function as a society in miniature, should organize activities like morning assembly, ceremonies and functions like the prize giving ceremony, games and sports, debates, and seminars to cultivate community feeling, teaching of subjects like history, music, art, and literature should also be recognized. Student's self-government should be organized to provide training for leadership and community living. Thus, we can relate education to life and society.

Check Your Progress

1. How did E. George Payne define educational sociology?
2. Name one goal of educational sociology.
3. Give one reason why the study of educational sociology is important.

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Education and Social Change

Some of the ways in which education affects social change are listed below:

- Education helps perpetuities, stabiles and consolidates some eternal values by means of its programmes and application thus inculcating faith in social change.
- Helps understand and accept the emerging social change smoothly and willingly.
- Education determines the desirability and efficacy of the social changes by continuous and critical evaluation.
- Prepare ground for social change by generating public opinion.
- Education is a means of conserving and transmitting culture from generation to generation facilitating social changes at appropriate time.
- Promotes unity and total integration which fosters social change at a mass scale.
- Helps maintain human and social relation by keeping the structural equation and balance.
- Spreads the message by word of mouth, print and electronic media.
- Prepares enlightened public opinion by removing the resisting factors and obstacles to social change.
- Increases depth and variety of knowledge to appreciate change.
- Inculcates spirit of reform and social welfare to conceptualize and promote change.

Social Factors Determining Educational Policy

Generally education leads to social change but at times social changes also determine the educational policy, theory and practice. This indicates the close and integral relationship between education and social change. Some of the instances wherein social change determines education are as under:

- **Educational changes because of social forces:** Social aspirations, social values and social dynamism are some of the social powers. When these forces change, change occurs in the educational process also.
- **Educational changes because of social needs:** Society has various needs which affect the process of education for the purpose of their own satisfaction. It means that educational changes occur because of social needs and aspirations. Compulsory, free and universal education, diversification of secondary and higher education, adult education, agricultural, industrial, vocational, professional and scientific education are the various forms and varieties of education which have been brought about by the needs of modern Indian society.
- **Educational changes because of cultural changes:** Many changes in education occur because of cultural changes. It may be noted that first the material aspects of culture changes and then the non-material aspect of culture gradually changes. Thus, when cultural changes occur, changes also occur in education.

Role of Education in the Emerging Indian Society

In India, a state of social equilibrium existed for thousands of years before the English conquered the country. This equilibrium was the result of the scientific organization of education. The social feelings have influenced education and education has kept the aim of social progress always in view.

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Observance of dharma was the aim of social life and education. Dharma according to Indians is that which holds society together and it denotes justice, duty, right, moral obligations and several virtues. It stands for the individual's rights, duties and obligations towards oneself, one's kith and kin, towards the society at large. Thus observance of dharma aimed at physical well being, emotional integration and refinement, intellectual stability and enlightenment, social and cultural coherence and harmony, and the true knowledge of dharma helped the people to be socialized. The social teachings of the great seers and sages of India united the country.

With the coming of British rule, the positive aspects of the country were altogether disregarded. To the people of India, such an educational system was bestowed, which had its roots in western social life. This obstructed the progress of socialization of the people through education.

With the dawn of independence, several attempts have been made to enhance the society with the help of education. Now the effect of sociology on Indian education is rapidly growing. Therefore, it is very necessary on the part of the people to be conversant with educational sociology. The study of educational sociology helps the students to understand the geographical unity, ethnic unity, fellowship of faiths, social institutions, and Indian culture based on the principles of socialization of the people. It helps the students of the emerging Indian society to know about the vast storehouse of sociological material that awaits careful study, analysis and orderly presentation. Beginning with the Vedic seers and sages, with Manu Varvaswata and Gautama Buddha, and ending with Rabindranath Tagore, Sri Aurobindo, D. Annie Besant, Dr. Bhagawan Das, Swami Dayanand Saraswati, Mahatma Gandhi and Acharya Vinohbha Bhave, India has given birth to seers, sages, saints, scientists, statesmen, social reformers and others, who preserved the Indian social tradition, while India's cultural and social life was shaken to its very foundation by the unsettling effects of contacts with other countries and by other agencies of social change. Our country's need today is to equip our students with the sociologist's concept of equality, secular attitude, broadmindedness and cultural unity of the country.

Education as a Centre of Community Life

A group of people living together by common interests and purpose may be called a community. But in actual practice, we do not have such a community. Generally, people living together in a community have conflicting interests in their process of living. The interests of the 'haves' have always dominated over the interests of the 'havenots'. In spite of these differences, there are certain grounds common among all the members and groups of any given community. These grounds are: beliefs, customs, traditions, attitudes etc. because of these common interests, perhaps we call it a community. Even then different groups in a community may differ from each other on the basis of their basic interest. Therefore, it is very difficult on the part of education to look to the interests of several groups of a community equally. The group that becomes powerful, influences the community as a whole and dominates over the policie and practices of the education system. In such a situation, it is very difficult to practices the principle like 'equality of educational opportunity.' During the British Raj, people of India could not realize the importance of education. Therefore, education was considered as an institution like other government offices. In the words of K.G. Saiyidain, 'For all practical purposes, it (education) is just as much an official concern, a government institution, as the law court or the railway or the prison.'

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The various section of the community dominated education to safeguard their own interests. But now the question arises as to how far education enters the community. This is a crucial problem for everybody who deals with education. Our problem is to check the influence of different groups on education and use education as an instrument for general improvement of the community as a whole.

To achieve the above goal, it is essential that education and the experience of the child in the society should be integrated. As a result of which education can become a social process and a dynamic part of the social life of the entire community. Such unification or integration between the two fields of education will be possible only when education can participate in the life of the community and take active part to solve the problems confronted by the community. When education understands the needs, interests and problems of the community as a whole, it can serve the community in the true sense of the term. In this respect, K.G. Saiyidain opines, 'A peoples education must obviously be based on the peoples' needs and problems. Its curriculum should be an epitome of their life. Its methods of work must approximate to theirs. It should reflect all that is significant and characteristic in the life of the community in its natural setting'.

Education is the only means to lead the individuals towards all-round development and progress. Therefore, each community maintains education in order to fulfill its economic, political, cultural and social needs and education on the other hand maintains the community through its many different activities and diverse programmes.

Relation of education and community is a two-way traffic. The community conveys its problems to education for solution and guidance and the knowledge is fed back to the community. The progress of the community depends upon the effective feedback process. A community cannot progress, if it does not get feedback from education as guidance and solutions. Thus education and community depend upon each other for their progress. Education can solve the economic problems of the community.

Some are of the opinion that education can meet the needs of the people, if it can orient the students to the existing industrial and agricultural conditions and prepare them for specific jobs. But some people criticize this opinion and argue that in a democratic country, it is not at all desirable to introduce early specialization. It may be introduced at an advanced stage of development. Regarding such vocational orientation in education, some other experts advocate that introduction of socially useful productive work make learning more meaningful and effective. It helps the students realize the importance of dignity of labour and develops their personality. Thus education can solve the economic problems of the community.

Education can solve social and cultural problems of the community

Education can solve social and cultural problems confronted by the community in many different ways. For example, the social problems like untouchability, health and hygiene should be discussed by the students, teachers and the members of the community and find out desirable solutions. Educational activities like literary classes, discussions, and plays can be organized, to solve the social and cultural problems of the community. Thus, education can influence the community life and become a community education in the true sense of the term.

Check Your Progress

4. Why is it important that education and society should be closely associated?
5. State any two ways how education affects social change.

SOCIAL FACTORS IN EDUCATION

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Sociocultural approaches to the process of learning are increasingly being applied by educationalists. Two principal agencies, family and school, powerfully shape children's experiences. The influence of these two agencies in constrained by the wider social and cultural systems into which they are embedded.

Here we will study some of the social factors impacting education.

1. Schools as agents of socialization

The school, as an agency of socialization developed at the stage of social development when division of labour became pronounced and the need to create some special institution to educate people for several categories of social activities began to be felt. In ancient India, we had schools like *guru ashram*, *gurukula*, the *vihara*, the *sangha*, the *patasala* and the *vidhyapitha*, which played a prominent role in the process of socialization and transmission of the rich cultural heritage of the country. In the medieval period, we had *maktabs* (schools) and *madarsas* (colleges). The modern school system developed with the coming of the British to India.

In modern industrial society the school system has emerged as one of the most potent agencies of socialization. Schools offer two contexts for the students. The first is the formal context of the classroom, wherein the context of socialization is decided by the prescribed curriculum. The second context is informal and can be perceived in the interpersonal relationship of students with teachers and those among the students.

Talcott Parsons (1959) in his essay the 'School Class as a Social System' argues that the school as a social system performs four important functions simultaneously:

- Emancipation of the child from the family.
- Internalization of social values and norms, at a higher level than as available in the family.
- Differentiation of the school class in term of actual achievement.
- The selection and allocation of human resources into the adult role system.

By going through this process the child acquires the values of industrial society like achievement orientation, discipline, liberalism and rationality.

Origin of the term school

It is not known from where the term school originated. Probably it originated from the Greek word *skole* which means leisure. If we open the pages of history we will find that in the ancient civilizations of India, Greece, China and Egypt, material prosperity increased to a great extent as a result of which leisure became available at least to the people belonging to the upper classes in the society. To spend their leisure hours profitably, they developed a special institution to educate themselves. The institution came to be known as school. Thus, the school system developed out of surplus economy. Due to further development of material resources, the school became the most important agency of formal education in modern times. It has become the predominant mode of transmitting culture everywhere in the world. In modern times, the school has been used as an important agency of formal education to preserve and strengthen the cultural heritage of a society to control ideals, values, beliefs, customs and traditions.

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Functions of a school

The school, as an active and formal agency of socialization performs the following functions:

(a) Conservation and perpetuation of culture

The most important function of the school is that it should conserve the existing social culture, which was won at a great cost of time and suffering. The continuity of social life can be maintained by the school by transmitting the customs, traditions, values and experiences of the society from generation to generation. Thus, the school can teach the minimum general culture and civilization.

(b) Promotion of civilization

Conservation and transmission of culture from one generation to another is not the only function of the school. The school imparts adequate training for the enrichment and modification of culture. As a result of which a better and happier society can be established. Thus, the school transmits cultural heritage and recognizes and deconstructs human experience for the promotion of culture and civilization.

(c) Deployment of cultural pluralism

School is an institution, where children belonging to different religions, castes, creeds and social hierarchy study together and mix freely with each other in a friendly atmosphere. They also develop sympathy, cooperation, tolerance and respect for the views of others in a natural way. Thus, the school acts as an important agency to develop cultural pluralism among the students.

(d) All-round development of the individual

The school is meant for the all round development of the personality of the child, his physical, intellectual, social, moral, spiritual, and aesthetic development. The school develops social qualities of the child with the help of curricular and co-curricular activities like games, sports, social service programmes, and craft work.

(e) School develops spirituality

Instruction in the school develops spiritual feeling in the individuals. The atmosphere of an average home may not be suitable for developing spiritual feeling in the individual. But schools cannot afford to ignore the spiritual development of the students. By creating a suitable atmosphere, it can develop spiritual feelings.

(f) School takes the responsibility of social reconstruction

Society reviews and develops itself through the active cooperation of schools. All social problems and needs of society are flashed in one way or the other in school which provides the desired solution for all these problems. Proper education enables the students to criticize evils. As a result of which certain modifications take place in the social order.

(g) Development of the quality of leadership

Schools train the leaders of tomorrow. They train the students to understand their role in society and State and to make proper use of their rights and duties. In course of their learning, the students get an opportunity to think critically in order to become conscious citizens of the democratic state. By accepting leadership, in different co-curricular activities, they get training in leadership, which helps them to become future leaders of the country.

(h) Promotion of social efficiency

The most important function of the modern school is to provide social efficiency. Students should get the training for democratic living which emphasizes on social efficiency.

Thus, the school has become a significant and basic institution of the society. Therefore, the state should come forward to support the school in a big way.

Functions of a modern school

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In the past, functions of the school were confined to reading, writing and arithmetic and to a few other academic subjects only. With the dawn of modern age all these have been put in the reverse gear. The importance of universal education has been accepted by all. The needs and the nature of modern production also makes it obligatory for the state to make education free and compulsory for all.

(a) School as a gateway to lucrative jobs

Modern schools are the place where formal training is provided in certain technical skills like reading, writing, drawing, etc. Certain prescribed subjects like history, geography, political science, psychology, education, economics, sociology and science are also taught to provide the students with lucrative jobs and professions of prestige. Schools have become the instruments for killing the spirit of joy, initiative and love of work in children in order to provide them with a white collar job in their unforeseen future. Thus, schools now function as an agency of formal education in order to provide lucrative jobs and professions of prestige to the students.

(b) Introduction of productive work

Since the modern technological society is dominated by the machine, productive work has been introduced as an integral part of schooling. Students are allowed to find out the types of productive activities suited to their age groups and to various levels of academic growth. An authority like Paul Nash feels that in our technological society, work has lost its real meaning. It fails to provide satisfaction and happiness. It does not work as a means of self-realization. 'In order to restore its real meaning, work should again be made a reflective activity. That is, work should make one conscious of relationships between workers and worked, between worker and management, between a man's work and society's need, between the intention and the execution, between the present activity, past benefits, and further promise.' Hence the function of modern school should be 'to make work a reflective activity through the development of purpose and commitment in the student and at the same time, help to lose playfully in the work-task of the movement.'

Functions of the school as a substitute to the family

The modern school takes over certain functions that are usually performed by the family. For example, in the curriculum of modern schools subjects like home science, domestic art, and health education have been introduced. There is also provision to help the children to profitably use the leisure hours during the school time and also recreational facilities after school hours. In general, schools have also undergone changes. It is no more based on authority. Therefore, the responsibility of the school at present is to develop self-discipline. Through self-discipline, children can enjoy freedom.

(a) School should satisfy the child's needs

Opportunities should be provided in school to enable the child to satisfy his need, and interests. Here the school should be careful to see that the child does not interfere with the activities of others while satisfying his needs and interests. This, will be possible, if the school can provide facilities for self-expression and free activity. Thus, the school can discover the needs and interests of the child and guide it properly for satisfying them.

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(b) School should create a sense of security in the child

For the normal growth of the child a sense of security is very much needed. Therefore, the school should provide opportunity for 'feeling of being loved and cherished, a feeling of belonging, a feeling of being at home in a situation, a feeling of courage and self confidence.' If the school becomes home-like, then the child can develop a sense of security. Besides this, the system of 'pass'and 'fail'in the examination, should be modified to develop a sense of security in the child.

(c) School should develop a sense of cooperation

To get rid of the individualistic tendencies, the school should organize such a programme which will enable the children to think and work together in order to achieve a common objective. They should learn how to adjust to the social environment and also to each other in the process of living.

(d) School as a society in miniature

To make the society worth living, the school and the society should complement each other. They should depend on each other for their growth and development. If we neglect this contact, education would remain ineffective and artificial and cannot be used as an instrument of social progress. The school, therefore, is a society in miniature, where students and teachers function together, bound by a code of conduct that directs their behaviour. Organizations of activities like prize distribution ceremonies, athletic events, school assemblies, and clubs are the integral part of the school culture. These are some important features of social life. To supervise the rights and duties of the members of the schools there are some authorities also. The relationships between the administrators and teachers, teachers and teachers and students and teachers determine the efficiency of the school system. Thus, school is a social organization.

The school, in order to function as a society in miniature should organize activities like morning assembly, ceremonies and functions like prize distribution ceremony, games and sports, debates, and seminars. To cultivate community feeling, teaching of subjects like history, music, art and literature should be recognized. Student's self-government should be organized to provide training for leadership and community living. Thus, we can relate the school to life and society.

2. Home as an agent of socialization

The school cannot perform all the functions alone which have been entrusted to it. Therefore, assistance of the family is essential. The child spends the major part of its day in the family. As a result of this, the influence of the family in the development of habits, attitudes and behaviour, is much more. Hence, the mutual cooperation between the home and the school is very important.

The home as an informal agency of social education is the oldest institution. From time immemorial, the parents have been the chief teachers. It is at home that the child learns to walk and talk, to distinguish the simplest properties of the things that he sees and uses, to imbibe certain moral values, to differentiate between right and wrong, good and evil and to experience some of the deepest of human affections. When he becomes old, he does not stop his educational function. As a father or mother, he or she gives the best social education to the children. Thus, the home works as an abiding social educational agency; throughout life.

Social function of home

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The home is the primary group, where 'face to face' relationships are made. This is very useful in providing education to children because in such situations children learn quite a lot. As an agency of education, the family should perform the following functions:

(a) Provisions for physical development

The first function of the family is to develop the child physically. Parents and the elder members of the family should be careful about the physical development of the children. To achieve this end, useful physical exercise and other activities should be provided to the children. They should also be provided with wholesome food containing all the ingredients of a balanced diet.

(b) Development of mental ability

The second important function of home is the development of the mental ability of the child. If home can provide a suitable atmosphere, children will be able to learn a lot informally. They can develop their mental powers like thinking, reasoning, feeling, discrimination, judgment, and memory parents should also create a suitable atmosphere for the same.

(c) Emotional development

The real education of the child begins not intellectually but emotionally. Good fellow feeling and amity among the members of the family affect the emotional make up of the child. As a result of which, it can develop positive emotions like sympathy, tolerance, love, and justice. The home also gives a sense of security to the child which enables it to receive fruitful education.

(d) Home as miniature society

The home is a society in miniature. Here the child learns all socially desirable values like companionship, love, security, inter-personal relationship, tolerance, and cooperation. Thus, it serves as the first and the most effective social system for the child.

(e) Home provides vocational education

The first lesson for future vocation of the child begins at home. Children, who are engaged in the family vocation become apprentices and in future may adopt the same training as a profession.

(f) Home imparts religious instructions

Under the unbearable stresses and strains of modern society, religious education is the only source which can provide peace and happiness to an individual. It is, therefore, desirable that the home should impart religious education to the child. As a result of which the child can develop qualities like charity, kindness, service to others, devotion to duty, goodness, etc.

(g) Transmission of culture

Apart from the broad umbrella of society, a family may belong to a sub-culture group which is different from the national culture. In such cases, the home hands out its specific and peculiar culture to the child. Different social classes have conflicting expectations from their members. Their ways of training also differs a good deal. The home transmits its individual culture and also the culture of its society to the child.

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(h) Home provides a learning situation

The home is the first school of the child, where he experiences a learning situation. He spends his infancy and pre-school stage almost entirely under the care and supervision of elders in the family. During this period, he is immature and highly impressionable. As such, he is easily influenced and moulded by the home. He is not only dependent for his physical needs on the elder members of the family, but also for his intellectual and social needs. As yet, he has neither any experience of his own nor any independent standard to judge things for himself. It is, therefore, the most malleable period of his life. Again, the child in his early years of life is highly charged with emotions. Emotions in the family greatly affect the learning process. Therefore, it is the responsibility of the home to provide a real learning situation to the child.

(i) There should be high cooperation between the home and school

The home should be ready to cooperate with the school. Parents should participate on the occasions like parent's day, school-exhibition, educational conferences, parent-teacher association meetings, etc. Besides this, the home should also be ready to share with the school the responsibility of developing the personality of the child.

(j) Training for citizenship

In a democratic State, the home provides a lot of training for citizenship. Through their participation in the household activities, they develop a good background for citizenship.

(k) Family should enable children to develop healthy attitude towards sex

One of the most powerful drives for men and women is sex. The index of a well-adjusted life is proper sex adjustment. In the present-day society, boys and girls tend to learn about sex through their friends. It often proves to be very harmful. Therefore, the family should take the lead to provide sex education to the child, so that he/she is able to develop a healthy attitude towards sex.

3. Peer group as socializing agent

Children like to play and move about in groups of their peers. This group life is very important for them and has a considerable influence on the development of their self-concepts. Being in a group gives them confidence and a sense of security. Particularly those who are popular, learn to think positively of themselves. In playing together children learn to cooperate. They learn to adjust their needs and desires to the behaviour of peers. In a very real sense, the child begins to develop a sense of self as distinct from the family. As the child develops a social self, he/she also learns to participate in the cultural norms and practices of childhood. He or she learns many things from slightly older members of the child peer group. For example, the specific rules of many childhood street games are learned, not from adults who still might remember them, but from older children. The same can be said for many rhymes, myths, tales, etc. Thus, peer influences begin before school intrudes and continues with varying degrees of importance for the rest of life. The norms, values and expectation of the peer groups of late childhood and adolescence tend to compete or even conflict with those of the family. Behaviours that are deemed proper within the family are at times incompatible with those expected by the peer group of adolescents like shops lifting or experimenting with drugs.

4. Mass media as socializing agent

In modern society, the means of mass communication such as television, radio, cinema, newspaper, books and audio-video cassettes have become an integral part of life. They

play a very important role in the socialization process of their viewers, readers and listeners. These mass media, especially the television and radio, simultaneously convey the same message to a nation-wide audience. Therefore, its impact on the process of socialization assumes greater significance. The most important thing about mass media is the message that is conveyed or images that are projected. For example, in the context of gender and socialization, one can examine the image of a female portrayed by the mass media or in the context of the rural population one can examine the relevance of the programmes for the villagers, which is made for the consumption of urban middle class. Another important aspect of mass media, especially television and radio, is that they generally express official values or message.

Television has some effect on another agency of socialization, i.e., home because it is generally viewed at home together with parents and siblings. It can propagate values in contradiction to those championed by a particular family or community.

Parents respond to this in several ways such as strict control of viewing and not allowing the watching of certain programmes. However, the child's peers in the neighbourhood or in the school influence him by discussing specific serials or programmes. Though there is no rigorous scientific study available on how much the average child learns from television, its impact is considered important. Bringing the whole world into the home for several hours every day, has created a childhood environment of sight and sounds never before experienced in the history of mankind.

Important Functions of Media

Of the different agencies of education, media in today's context perhaps plays the most vital role in socialization, acculturation or information dissemination. The media have found their rightful place in formal, information and non-formal education of children and adults. For development of worthwhile knowledge, skills, and attitudes in people of all ages, the media seems to possess great potential. In the last quarter of the 20th century, there was a rapid advancement in information technology with the help of which a tremendous amount of knowledge can be gathered, processed and disseminated in a most desired and effective manner. Mass communication systems opened up new directions to the horizon of the human world; they brought a revolution in man's behaviour to gaining of knowledge. Cameras mounted on space shuttles give us close-up televised photographs of the moon and other inter-galactic bodies. Television programmes are being transmitted from one side of the world to another. In India, SITE (Satellite Information Television Experiment) has been very successful by which information of weather and other types of information from all over the globe is readily available. Similarly, educational broadcasting computer network, e-mail, technology, computer discs, etc., have almost revolutionized man's approach to gaining and processing of knowledge. ETV (Educational Television) has become a persuasive and effective means of both formal and non-formal education.

The rapid progress of information technology may offer new prospects for development by opening up a large number of isolated regions and enabling people to communicate with the whole world in the vital field of specific research. It will help easy access to an international database and permit the establishment of virtual laboratories that would enable researchers from developing countries to work in their own countries and thus reduce the brain drain.

For a learning society like, India which has a huge population of one billion, the media systems based on modern technology constitutes a very potent tool for education

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and development. It has varied and numerous applications bearing on almost all aspects of individual and social life. In one sense, all these uses of information technology basically have their impact in educating people, giving them knowledge, skills, improving understanding and changing their attitudes. The media in today's world performs specific educational functions in both formal and non-formal systems. In education, media can be and is being used both at individual and mass levels of learning. Use of information and communication technologies especially in non-formal education (Distance Learning Mode) is becoming one of the most important delivery systems of learning society. Its use for distance education appears to be an avenue of promise for every country in the world. In India, IGNOU and CIET (Central Institute of Educational Technology) are launching distance education programmes throughout the country. In general, distance education employs a variety of delivery systems such as correspondence courses, radio, television, audio-visual materials, telephone lessons and teleconferencing. The new technologies will have an important role to play in adult education in tune with learning throughout life. In the formal school situations though nothing can entirely replace the face-to-face learning, yet we can use the media to our best advantage. The Delors Commission also observes that the new technology has created a host of new tools for use in the classroom as under:

- Computers and Internet
- Cable and satellite TV education
- Multimedia equipment
- Inter-active information exchange system including e-mail and on-line access to libraries and public data base.

Using these and other tools, both students and teachers are equipped to become researchers. Teachers can coach their students to evaluate and to use effectively the information they have gathered for themselves. In this way, a new partnership can develop in the classroom. However, it should be remembered that these tools should be used in conjunction with conventional modes of education and not to be considered as a self-sufficient substitute for them. If used with the conventional mode, it can enrich the formal system by filling instructional gaps, updating knowledge, and giving new learning experiences.

The use of computers and multimedia systems make it possible to design individual learning paths along with which each pupil can move at his/her own pace. The compact disc (CD) technology has a special role to play, for it can handle large amount of information complete with sound pictures and text. Interactive media allows pupils to ask questions and look up information themselves. It is observed that pupils who are under-achievers or experience difficulties in conventional mode of education reveal their talents better and show more motivation and curiosity in an informal mode.

In the end it is important to stress that the aim of the development of these technologies is not to replace the textbook and the teacher. In a child's education they have their own role to play. Textbooks, although they no longer are the only instrument of teaching and learning, nevertheless, retain the central place therein. They remain the cheapest of media and easiest to handle, illustrating the teacher's lessons, allowing the pupils to revise lessons and to gain independence. Similarly, the development of these technologies does not diminish the role of teachers, it however offers them an opportunity that they must grab. It is true that in today's world teachers cannot be regarded as the

only repository of knowledge that they have to pass on to the younger generation. They become partners in a collective fund of knowledge. With the development of these technologies, there has definitely been a shift in the emphasis in the teacher's role. Their role now is not only that they have to teach pupils to learn but also of teaching how to seek, look up and appraise facts and information. The competency of the teacher is 'a new form of literacy for him.

Education as a Social Sub-System

Society generally consists of complicated network of social relationship by which every human being is interconnected with his fellow men. At the same time, every relationship among human beings is not social. In a social system, education as a sub-system fulfills part of the functions of the society viz. getting the young-ones ready for the adult roles that they have to play. Thus, maintaining society over time. Education works in close interrelationship with other sub-systems. i.e., family, economy or state.

A society has a certain set of components working towards the goal of managing funds for the welfare of the people in education. Policies of the state influence the functioning of the system of education in any country. Funds provided by the system of economy largely decide the structure and functioning the system of education.

Similarly, the family background of the students of a social school influences the education system. Education system is only system which provides the necessary human resources for the other sub-systems. In this manner we can say that education is a sub-system of society and that it works in close interrelation with other sub-systems of society.

The interrelated system of social roles and norms organized about the satisfaction of an important social need or function is called a social institute. Institutions may also be defined as established forms of procedure. One of the main aims of the society is to prepare within the children the essential conditions of its existence and perpetuation.

The older generation exercises certain influences on the younger generation which is not yet ready for social life, with the objective of promoting in children the set of physical, intellectual and moral behaviour expected by the society from them as a whole. Frankly speaking, each generation tries to pass on its social heritage and cultural tradition to the next generation. This process of transformation is called the transmission of culture.

Socialization is a process which starts from the early years of the child where he/she is within the family environment. It is before we start our schooling. Social values and norms are generated by this section of age. If we observe the behaviour of the family members and he reward goes to the education.

Education and the Community

Man forms a society, because he cannot do without it. When some persons come in contact with others, and for protecting their interests indulge in natural give and take, they form a society. A group of persons alone cannot be called a society. For a society it is necessary that its members feel a sense o unity and mutual relationship. When various persons of a community get interested in each other and consider themselves bound with some feelings, they bind themselves in a society.

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There is no limit to the dimension of a society. Within its size there may be only two persons or all the persons of the entire world. Within a big society there may be several small units and a certain person may be a member of several societies. In the world society there are several nations, within a nation there are several provinces, within a province there are many cities, in a district several villages, in cities several mohallas, associations, committees and many other social units.

A society has its own ideals. Every member considers his duty to safeguard them. The organization of a society is such that its members may look after the social interests along with protecting their own individual personalities. A person being a medical doctor, an engineer, a teacher or a musician can observe the social ideals in his particular field of activity the purpose of a society is quite comprehensive and permanent. It includes all the aspects o an individual's life.

Definition of a society

Society is defined in various ways and the various definitions may be quite appropriate in their particular contexts. In this unit by the term 'society' we shall understand a group of individuals of a particular geographical entity which shares some common experiences and follow a certain culture. For the interest of all concerned this community recognizes some institutions and some local unity. Some consciousness is always present in it. For the fulfillment of some social purpose this group works as a unit.

Responsibility of society for education of the child

There is a close relationship between society and individual. It is the individual who forms the society but he is always influenced by it. After becoming a member of the society the individual becomes so concerned with its ideals and traditions that if he happens to ignore any of them, he is censored and regarded as immoral. Only that person is regarded as educated who is very well rooted in the social ideals of society. Family, school and state are different type's o social institutions and all these leave undeniable imprints on the development of the child. The child learns many things unconsciously according to his environment. So those responsible for the development of the child must try to organize the environment in such a manner that it does not adversely affect the child's development. It is our duty to make the child social. But the process of his socialization should be such that he experiences no difficulty in the same. In some social system the state shoulders the entire responsibility of the growth of the child. This situation is particularly true of a communistic state. In a democratic set-up everyone tries to fulfill his duties regarding the child. In a democracy the various units of the society arrange for education of the child in their own particular spheres. But these units are responsible to the Stat for education of the child. In other words, in a way, been in a democracy the state undertakes the responsibility of child's education, but at the same time the society also cannot free itself from the same.

Individual and society

The child is the future citizen of the society. Therefore, the welfare of the society rests on the proper education of the child. The society should shoulder this responsibility very sincerely. It should organize the environment in such a manner that the child can himself build up his personality in an ideal manner. In its attempt to make each individual social, sometime, the society crosses its limits. Then it is seen that many persons come under the pressure of some old social traditions and customs. As a result, their growth is

blocked. If under this situation someone crosses the social sanctions, he is given some punishment. In our country many people are afraid of social boycott. So they do not dare to go against social sanctions. Adherence to social sanctions must not imply that one should not rise against social evils. If social evils are not eradicated the growth of society will be blocked. The social environment should remain so open that everyone feels free to reach his maximum development it is for the interest of the individual and society both that they maintain mutual co-operation and adjustment and each regards the development of the other as its own development. Thus the individual and society are interdependent.

Cooperation between school and society

The cooperation between the society and its various units is very necessary. If there is lack of cooperation between family and school and between society and school, no suitable environment for the child will be possible the problem of cooperation between the society and school is not so complex as between the school and family. Sometimes the gulf between the school and family becomes so wide that the child has to face two types of environments resulting into lack of harmony in his behavior. Similarly, there should be no gulf between the school and society. The school has to serve the interests of society. In other words, the school should represent the society. It is in this sense that John Dewey has remarked that the school is a society. In the activities of the school the shape of the society should be clearly seen.

School cannot be separated from society, because the school is a necessary organ for the development of society. The students and teachers are members of the society and through their personalities they bring to school various social problems. The parents also bring pressure on the school through their demand expectations. Even then there appears to be a gulf between the school and society, because the environment of the school has become artificial. Whatever is done in the school does not appear to be related with the demands of society. So after completing his education, an individual is facing unemployment and cannot stand on his own les. By bringing the school near the society, self-confidence and self-reliance may be created in the individual. Therefore the school must be related to the social demands, it has been suggested by some educationists that parents should be invited to participate in school functions and they should be made conversant with the various activities of the school. Sometimes the teachers should visit homes of students and should talk to parents about their children's difficulties. By these measures the parents will feel that the school is paying due respects to them and it is sincerely interested in the growth of their children. The experts in the field education have also stated that the teacher should take the responsibility of cultural development of the nearby society. For this the teachers should organize some appropriate activities in the society. Thus the school will be influencing the society in a healthy manner, and in a way it will become a centre of social life.

Some educational duties of the society

In the modern days of democracy, it is very necessary to bring the school near the society. But at the same time it becomes imperative in the society to perform certain educational duties. These duties are related with the all-round development of the individual's personality. Thus each social institution in same way or other will act as a centre of education. Then in the general life of the individual the process of education will ever be on.

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The society establishes the school in order to ensure the mental development t of the child. Similarly, the society should be careful about the other sides of child development. It should open gymnasium, and provide playgrounds, parks, garden and hospitals. The society must see that adequate provisions are made for distribution pure milk and other food articles and necessities of life at reasonable rates to all. Such a provision is not to be for children alone but for all – adult, old, men and women irrespective of their vocations.

The society should make arrangements for vocational education of children. If this is done everyone will be able to earn his living and the problem of unemployment will be solved in due course.

The society should see that everyone is permitted to enjoy freedom of speech. Any idea or doctrine must not be imposed on anyone. Everyone should be made free to follow his own ideals of life as long as he does not interfere with the rights of others. For encouraging freedom of speech, reading rooms, libraries, radio and TV sets should be provided in order that people may become well informed about the virus national and international happenings. Suitable arrangement should also be made by society for adult education. In fact, to educate he huge illiterate masses is a sacred educational duty of the society in our country.

The society should also look after the moral development of its citizens. It is non morality alone that the permanence of society exists. So attempts should be made for the maintenance of discipline in society. Fostering of liberal attitude and spirit of co-operation, tolerance, dutifulness, politeness and patience are necessary for moral development of the society. Black-marketing and dishonesty on the part of some shopkeepers and businessmen prevail only when the society tolerates it. The state laws cannot eradicate these evils unless the society also comes forward and takes suitable measures to stop these vicious practices. So it is the responsibility of society to maintain a moral environment. If the society is able to perform these duties the individual will automatically get education for developing good character.

The society must keep its ideals very high in order that it may not fall. High ideals of society ensure honesty, dignity of labour, self-respect and self-reliance in its citizens.

It is the duty of society to promote aesthetic senses in children. This may be possible through education in fine arts, painting, vocal music and dancing. If an individual forms the habit of being aesthetic in all his activities, then he will now tolerate any filth in his home, village and society, thus a healthy environment will be maintained in society an all will be happy.

Regarding religion, the society has a special duty. It must see that every citizen feels free to practice his faith without interfering with others' beliefs the society must teach its citizens that all religions are equal and based on love, sympathy and compassion. There should be no strafes and dissensions in the name of religion.

Socialization of the Child

The sole purpose of education is to socialize the child. The family is the first school of the child for this purpose. Then come the neighbors and companions. A child adopts behaviours by imitating adults. So the elders and others who come in contact with the child must be very careful in their behaviour. When the child starts going to school, he faces a new world and revolutionary changes occur in his behaviour. He regards the teacher as his idea. So through socialization the child picks up the social ideals, traditions

and customes to be followed in order to win the approval of his elders. Needless to say society and its various units have to play a very important role in the socialization of the child.

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Educational Scenario in the Indian Social Context

Education is an instrument for developing a society and for ensuring equity and social justice. In India, the education scenario at the time of Independence had structural flaws with inequities characterized by gender, social and regional imbalances. Even though the post-Independence period saw significant achievements in the field of education, the structural flaws continued and to a certain extent got accentuated.

The Indian Constitution guarantees the values based on the principles of equality, liberty and fraternity, and ensures the dignity of an individual irrespective of his caste, creed, political, economic or social status. Humayun Kabir has rightly said, 'as a democratic republic, India has abolished all vestiges of privileges and vested interest. Our constitution not only offers but guarantees equality of opportunity to all. Such equality can be realized only in an atmosphere of justice and fair play'.

Students, the future citizens of India, should be trained in a democratic setup, its values and ideals, so that they will have sense of justice, which is conducive for the development of national integration.

The fourfold idea of Justice, Liberty, Equality and Fraternity in the Indian Constitution has been incorporated for the elimination of social inequalities, economic disparities and political privileges. In the eyes of law, everyone has an equal status; justice is denied to no one. Everyone has liberty of thought, expression, and to practice his own faith and belief. The dignity of each individual is assured.

Another unique feature of modern Indian education is the tremendous advancement made in the education of women. Education of a girl child is considered very important in the changing times. India requires a large number of women teachers for primary and secondary schools. Hence, more training colleges should be opened for training of women teachers and more seats for women should be reserved in training colleges. Similarly, more seats should be reserved for women candidates in medical, engineering and other professional colleges. This will facilitate the growth of women in various sectors of life. If trained women workers—lady doctors, teachers and so on—are sent to work in rural areas, they should be given higher salaries and other facilities like residence and other essential amenities for obvious reasons. Safety and security of women is another feature that needs to be taken care of.

The overall demand for higher education, adult education, and professionally related courses, is increasing in India. The changing social demographics, the increased number of secondary school pass-outs, desire for continual learning, and the growth of the information technology are a few important reasons for this change. While demand in education sector is growing, the ability of the traditional institutions needs to be enhanced to meet this requirement. The students, especially in higher education, need to be well equipped to succeed in the complex global environment, where the employers expect their employees to analyse and to find solutions to the problems from multiple perspectives. Universities are adopting various plans, policies and strategies to internationalize education in response to such emerging global demands.

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Cooperation between Society and School

From the above discussion it is quite clear that for the healthy development of the child cooperation between the society and school is very necessary. The society must take keen interest in the activities of the school the school is fulfilling only some essential functions of the society. Therefore, the society and its various units must always be prepared to help the school whenever necessary. The parents must never doubt the sincerity of the school and they must never interfere in its activities. They should provide all that the school demands for the education of their wards.

It is not possible for any society to provide opportunities for the development of all. Hence, mutual co-operation between the society and various schools is very necessary. The schools of urban or rural areas should serve as social centres for education and recreation of adults. In the social centres local problems of industries and general occupations may be discussed for finding out acceptable solutions.

We should keep in mind the following points for establishing a close relationship between society and school:

1. The needs of the local people should be ascertained. As far as possible, the school should try to meet them.
2. Community resources should be found out. The teachers should try to find the numbers of workers engaged in the local agricultural fields, factories, shops, gardens and laboratories.
3. The services of the all available social institutions in the state should be utilized as far as possible.
4. The society should be the starting point in any aspect of the curriculum.
5. It will not be useful to teach everything. The children should be acquainted with only some local experiences. Then alone they will learn something useful.
6. The students should be given all facilities to form their own programmes.
7. Each one should be given the knowledge of reading, writing and arithmetic.
8. It is just possible that everything cannot be taught through the school programme. So, the students should be given a list of literature in order that they learn something on their own.
9. The curriculum should be so flexible that changes may be introduced in it according to the needs of various individual.

Social groups and their implications, group dynamics

Aristotle, a Greek philosopher, once said that man is a social animal. He also said that all human beings, except hermits, lighthouse keepers, shepherds, prisoners in solitary confinement and a few others, live in groups. In everyday life, we observe that our life, to a large extent, is a group life. We do not and cannot stay alone for a long time. Group life is the basis of survival. We cannot fulfill even our basic needs alone, thus, we need to depend on other people for these needs. A number of sociologists also believe that after death sentence, ostracism is the crullest punishment for human beings.

The term 'group' is one of the most commonly used words. We use it to mean professional group, kin group, age group, religious group etc. In some cases, we use this term to mean human group as well. However, this usage lacks precision. Let us see how various authors and sociologists define 'social group':

- According to Marshal Jones, social group can be defined as 'two or more people between whom there is an established pattern of interaction'.
- R. M. Maclver and Charles Page describe social group as 'any collection of human beings who are brought into human relationships with one another'.
- Emory S. Bogardus defines social group as 'a number of persons, two or more, who have common objects of attention, who are stimulating to each other, who have common loyalty and participate in similar activities'.
- Harry M. Johnson is of the opinion that 'a social group is a system of social interaction'.
- Ogburn and Nimkoff say 'whenever two or more individuals come together and influence one another, they may be said to constitute a social group'.

Characteristics of social groups

Some of the characteristics of social groups are as follows:

- **Collection of individuals:** This is the primary condition of a **s**ocial group. No social group can be formed in the absence of people.
- **Communication:** After the collection of individuals, communication is required for the formation of social groups. It is the foundation of group life. Members of a group need to communicate with one another in a meaningful manner.
- **Unity:** It ensures that members feel themselves a part of the group and are ready to help one another. Frequency and quality of interaction, and common interest bind a group together and bring a feeling of solidarity among them.
- **Similar objectives:** There are a various kinds of groups in a society such as educational groups, political groups and religion group. The members of a group usually have the same objectives. For instance, the objective of an educational group is to acquire education. Similar objective makes them identify themselves with one another.
- **Rules and regulations:** Every group has certain rules and regulations or norms. These rules may be in the form of traditions, rituals, customs or laws. All the members are expected to follow these rules. When members go against the rules, they are punished by the group.
- **Size:** There is no parameter regarding the size of a group. It can be small and or big depending on the nature of work. However, it needs to have a minimum of two members.
- **Subject to changes:** Change is inevitable with a passage of time. The functioning, ideology and size of a group keep changing. These changes may be slow or fast and may occur due to internal or external factors. With time, some groups may even cease to exist.

Importance of Social Groups

Human beings live in groups throughout their life. Let us understand the importance of social groups:

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- **Survival:** Social groups have become so important for human beings that they cannot imagine their life without these groups. These groups provide us means of survival such as food, clothing and shelter. In the modern society, people depend on these groups to acquire things of comfort and luxury as well.
- **Self-development:** In the previous section, we discussed that human beings develop human qualities only when they are exposed to human environment. Therefore, these groups inculcate human qualities in people. In addition to this, they also assist in the development of people's personality as they provide a platform to exhibit talents and abilities. Human beings develop intellectual quotient and emotional quotient only in the presence of groups.
- **Development of social skills:** In addition to self-development, human beings also develop social skills in these groups. They learn the basics of socialization like considering other people's feelings and sentiments while making a comment. They learn that they cannot make comments that hurt the sentiments of a community or a religion.
- **Belongingness:** Social groups give human beings the feeling of belongingness. Without groups, they may feel lonely and disconnected. These groups also provide emotional and moral support to people when they are going through a tough phase of their life.
- **Professional growth:** Members of our social groups are aware of professional skills. Most of the times, these members refer our names to various people and suggest us various ways to grow professionally. Therefore, they, directly or indirectly, help us in our professional growth as well.

Classification of social groups

Social groups have been classified in a number of ways depending on their nature, and permanence. Let us study these classifications in detail:

- **'In-groups'and 'out-groups':** William Graham Sumner explains the difference between 'in-groups' and 'out-groups'. When a human being is able to identify himself with a particular group for a particular reason, he considers that group as 'in-group'. All groups, except 'in-groups' become 'out-groups' for him. For instance, a Hindu might consider all Hindus as members of his 'in-group' and people of all other religions as members of 'out-group'.
- **Involuntary and voluntary groups and institutional and non-institutional groups:** These three classifications of social groups have been given by Charles A. Ellwood in his book titled *Psychology of Human Society*. He explains these classifications as follows:
    - Involuntary groups: Groups that are based on a person's blood relationship or kinship are known as involuntary groups. Some of the examples of this kind of group are family, state, caste and community.
    - Voluntary groups: Groups that are chosen by a person himself are known as voluntary groups. Youth associations and cultural associations are examples of this kind of group.

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- Institutional groups: Institutional groups, according to Ellwood, include church, state and schools. He states that these groups are permanent in nature.
- Non-institutional groups: Some groups are temporary in nature such as mobs, audience and crowds. This kind of groups are known as non-institutional groups.

- **Horizontal and vertical groups:** P.A. Sorokin has classified social groups into two categories: horizontal groups and vertical groups. The basis of this division is the significance of hierarchy. In the former type of group, hierarchy is either not given importance or it does not exist such as peer group and nations. In the latter group, members of a society give importance to hierarchy such as economic class and bureaucracy.
- **Territorial and non-territorial groups**: Robert E. Park and Ernest W. Burgess classify groups into two categories: territorial groups and non-territorial groups. Groups that have a definite territory are known as territorial groups such as state, nation and village. Groups that do not have a fixed territory are known as non-territorial groups such as classes and castes.
- **Crowds, groups and abstract collectivities:** According to Leopold Von Wiese and Howard Becker, human groups can be broadly classified into crowds, groups and collectivities. They believe that crowds are transitory whereas groups remain in existence for a relatively longer period of time. Abstract collectivities such as church and state are permanent in nature.
- **Primary and secondary groups:** C.H. Cooley says, 'By primary group I mean those characterized by intimate, face-to-face, association and co-operation. They are primary in several senses but chiefly in that they are fundamental in forming the social nature and ideals of the individual'. Family is one of the examples of primary groups. Cooley does not even mention the term 'secondary groups'. Other sociologists later explained this term as 'residual' category.
- **Genetic and congregate groups:** F.Q. Giddings has classified groups into two categories: genetic groups and congregate groups. By genetic groups, he means those groups in which a person is born such as family, racial group and ethnic group. Congregate groups, on the other hand, are those groups that are chosen by a person voluntarily such as trade unions and political parties.
- **Organized and unorganized groups:** Social groups are classified on the basis of degree of organization. Groups with a well-organized and defined set-up are known as organized groups and others are known as unorganized groups. School, church and business corporation are some of the examples of organized groups. On the other hand, crowd and public come under the category of unorganized groups.

SOCIALIZATION

Socialization is a term which one often comes across in the writings on sociology of education. What exactly does it mean? Socialization is a process, whereby people learn the attitudes, values and actions appropriate to individuals as members of a particular social group. Eskimo children, for example, learn to enjoy eating the raw intestines of birds and fish, while Chinese children learn to relish the stomach tissue of pigs. Just

Check Your Progress

6. What are two functions of the school as an agent of education?
7. What are two educational functions of home?

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reading about these things may make us a little uncomfortable because unlike these people, we have not been educated or socialized to appreciate such food. Again, girls in India are socialized to walk, eat, talk and behave in a specific manner. They are encouraged to be quiet, docile, gentle and submissive. Boys on the other hand, are rewarded for their independent and assertive behaviour. So, socialization is all about being in tune with what society expects from us depending on our age, gender, and social background. Socialization occurs through human interaction. We learn a great deal from our family members, best friends, teachers and from all those for whom we nurture affection and respect. We also learn, though to a limited extent, from the people on the street, characters, portrayals, and depictions of characters in films and magazines and other sources. By interacting with people, as well as through our own observations, we learn how to conduct ourselves 'properly' and what reaction to expect if we challenge society's norms and values. Socialization impacts the overall cultural practices of a society, and also influences the image that we develop of ourselves. In other words, socialization refers to the process whereby the 'biological child' acquires a specific 'cultural identity', and learns to respond to such an identity. The basic agencies of socialization in contemporary societies are the family, peer group and the school. It is through these agencies and in particular through their relationship with each other that the various orderings of society are made manifest.

At the time of birth, the human infant is just a biological organism with only animal needs and impulses. He knows nothing about what we call society or social behaviour. As it grows, under the careful guidance of mother it learns to control bowel movement and regulate hunger. The human child has an innate capacity to learn and to communicate. Therefore, the child gradually earns the group-defined ways of behaviour. It is human company initially in the form of a family and later other social institutions like the community, peer group and school which educate the human child to be a responsible and useful member of society. The process of learning to internalize the values and norms into its self or the mode of learning to live in society is called the process of socialization. To internalize is to imbibe so deeply that it becomes a part of the individual's behaviour and personality. Therefore, socialization is basically the learning of socially desired values, norms and roles by the members of a particular group or society. It may be defined more comprehensively as a life-long process of inculcation whereby an individual learns the principles, values and symbols of the social system in which he participates and the expression of those values and norms in the roles he enacts. The above discussion leads us to infer some important characteristics of socialization:

- It is a lifelong process.
- It helps in the inculcation of principles, values and symbols of a social system.
- It enables a person to enact certain roles.
- The roles that one enacts are in accordance with what he has learnt from the process.
- The roles a person enacts are the expressions of his social nature.
- The development of the social nature enables the person to participate in social life.
- The nature of what one communicates in society is determined by the influence of one's interaction with the society.
- Most human behaviour is adopted not instinctive. The capacity of the child to learn and to internalize is called the plasticity of human nature.

Role of Education in the Process of Socialization

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At the time of birth, the child is totally unaware of his social obligations. He is self-centred. He does not care about the society or is least concerned about its welfare. It is only the process of education that brings him out of his selfish cell and makes him popular with other individuals. He also tries to make his own contribution to society. Hence the social significance of education is studied by educational sociology.

Education, as John Dewey says, 'is the process of living through a continuous reconstruction of experiences. It is the development of all those capacities in the individual which will enable him to control his environment and fulfil his possibilities.' This function of education is primarily a function for socializing the individuals living in society. Each individual learns from his predecessors and gets himself socialized. He learns how to make society richer by retaining all that is good and by eliminating all that is bad. Thus, education provides an opportunity to the people to be socialized and to lead the life of a normal human being.

John Dewey, in his book *Democracy and Education* emphasizes the importance of socialization of the individual with the help of education. He considers that through the participation of the individual in social consciousness, socialization takes place. He develops this consciousness by the help of education, thus making the process of education a social process. School is considered a miniature society as it purifies the society by providing the right education to the children.

Two eminent educationists like Brookover and Gottlieb opine that education is synonymous with socialization. 'It includes any social behaviour that assists in the induction of the child into membership in the society or any behaviour by which the society perpetuates itself through the new generation'.

From the discussions made above we come to the conclusion that socialization is a broad spectrum of social learning, whereby the child learns everything that he or she must know to become accepted as a member of society. The major socializing agencies in the life of a child are the home, the school, the peer group, religious institutions, youth organizations, political and economic institutions, the mass media, and in some cases the work environments. Some of these agencies such as the school, and the peer group are formally created and organized.

Stages of Socialization

The socializing agent does not try to teach everything at once. He concentrates on one task or on a few tasks at a time. Moreover, the process of accomplishing any one of the aims of socialization is gradual. Social scientists have earmarked four different stages of socialization from infancy to adulthood. These are:

(i) The oral stage

(ii) The anal stage

(iii) The oedipal stage

(iv) Adolescence

At the first stage the infant develops fairly definite expectations about when his feeding time is, and he learns to convey his needs for attention. During this stage, the infant is not involved in the family as a whole. He is involved only in the subsystem consisting of himself and his mother.

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The anal stage of socialization covers the period between the first and third year of a child's life. Toilet training is the main focus of this stage. During this stage the child internalizes two roles: his/her own and that of his/her mother, now clearly separate. The child receives love and care and gives love in return.

The third stage extends from about the fourth year to puberty. During this stage the child becomes a member of the family as a whole. The child identifies itself with the social role ascribed to him/her on the basis of his/her sex.

The fourth stage begins roughly at puberty. At this stage young boy or girl wants to be free from the control of parents. The 'crisis' of this period is precisely the strain produced by much greater demands for independence. By the time the individual attains maturity, a major part of socialization is over, although it continues for whole for the entire life of the individual.

Types of Socialization

All types of socialization may be classified into two broad groups, viz. primary and secondary. This division is based on the primary and secondary needs of individuals. The basic physical needs such as thirst and hunger are called primary needs while secondary needs are those which emerge to meet primary needs, e.g. the need for learning skills to earn a livelihood. The family satisfies the basic needs of human beings; therefore, it is called a primary institution whereas a school is a secondary social institution because it meets the derived needs of the children. The parents are primary socializing agents of the child whereas the school teachers are the secondary socializing agents. Inculcation of norms and values within the family is called primary socialization while the process of imbibing norms, values and behavioural patterns of school may be called secondary socialization. Primary socialization starts in infancy and childhood. This is considered the most important stage of socialization as the child learns the basic rules of conduct at this stage. Generally, secondary socialization starts at childhood and carries on till maturity. However, the process of socialization never stops in life. The school, peer groups and other institutions in which a person is placed in life play the role of socializing agents.

In the modern societies, where the social mobility of individuals and groups takes place more frequently, individual's loyalty to a particular social group weakens. He starts emulating the values, norms, behaviour patterns of another group in anticipation of being accepted as its member. This kind of socialization is called anticipatory socialization. It is based on the reference group theory. According to this theory the norms, values and the behaviour patterns of the individual are determined with reference to a particular group or groups. For example, individuals who have acquired wealth suddenly try to follow the values aid life style of upper strata of society. They tend to change their dress, behaviour and even their language and custom. For example, they start demanding dowry and force their women folk to observe *parda* on other 'distancing' customs.

Theories of Socialization

Social scientists have tried to analyse the processes of socialization in different ways. In this part we shall discuss some of the major theories in regard to the processes of socialization.

1. Charles H. Cooley's theories

Charles H. Cooley in his celebrated work *Human Nature and Social Order* (1902) propounded his concept of the 'looking glass' and explained how the self of an individual

develops and socialization takes place. He emphasized the role of primary groups and social interaction, especially communication, in the formation of personality. Thus, the self develops within a context of social relationship. Self and others do not exist as mutually exclusive facts, therefore, self is social. Cooley's important concept of the reflected or 'looking-glass' self has three basic elements, which are involved in the development of self and formation of personality.

These are:

- The imagination of our appearance to the other person
- The imagination of his judgment of that appearance
- Some sort of self-feeling, such as pride or mortification

Cooley argues that social interaction or communication plays an important role in the development of individual's personality and his/her behaviour pattern. During interaction with people, the child becomes conscious of how others see his/her behaviour towards them. On the basis of their reactions, the child develops a feeling about himself/herself. If the behaviour is appreciated, it will be applauded or rewarded and if the behaviour is denounced by the people, the child will suffer from feelings of mortification. Regular condemnation of the child's behaviour may develop an insipid and introvert personality in him/her while continuous appreciation leads to the development of a confident and extrovert personality. Thus, the social self depends on the social interaction. Individual's values, ideas, attitudes and habits are shaped by those of the people around him. This is the base of his/her socialization.

The primary group, according to Cooley's plays a central role in socialization. Primary groups are recognized by their features of intimate, face-to face association, direct cooperation and conflict, a relatively free play of personality and of sentiment. Though primary groups are present in all social organizations, according to Cooley, the family, play group and neighbourhood play crucial role in the process of socialization. Cooley called these groups primary because they are the nursery of human nature, providing the individual with his earliest and most complete experience of social unity. This group experience gives rise to social ideals such as the spirit of service, kindness and adherence to social norms.

2. Mead's theory

Cooley's theory of socialization, as we saw earlier, is based on human imagination, whereas George Herbert Mead explains socialization in the light of resulting 'acts' of consciousness. Mead bases his theory with two basic assumptions: (i) the biological frailty of human organisms force their cooperation with each other in groups in order to survive, (ii) those actions within and among human organisms that facilitate their cooperation, ensure their survival. Mead further argues that the human being learns those behavioural patterns that provide gratification; and the most important type of gratification is adjustment to social context. Mind, self and other unique features of human being evolve out of efforts to adjust and consequently survive in the social environment. In his view, society could survive only from the capacities for mind and self among the individuals. Thus, the capacities for mind, self and society are intimately connected. Mead recognized that the unique feature of the human mind is its capacity to use symbols or language to designate objects in the environment. The focus of Mead's theory is on how this capacity first develops in infants. The mind arises out of a selective process in which an infant's initially wide ranges of random gestures are narrowed as some gestures which elicit favourable reaction from parents. Gradually,

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gestures begin to denote the same meaning to all the persons interacting with each other. Gestures that have such common meaning are termed by Mead as conventional gestures. These conventional gestures increase the capacity of organisms to adjust to one another and assume the perspective of those with whom they must cooperate for survival. By being able to put oneself in another place or to 'take the role of others' the probability of cooperative interaction acquires a new level of efficiency.

Thus, when an organism develops the capacity to understand conventional gestures, to employ gestures to take the role of others and to imaginatively rehearse alternative lines of action, then Mead believes, it has a 'mind'. He emphasizes the development of 'self' for the proper socialization of individuals. He points out that just as humans can designate symbolically other actors in the environment, so can they symbolically represent themselves as an object. The interpretation of gestures, then, cannot only facilitate human cooperation, but it can also serve as the basis for self assessment and evaluation. As organisms mature, the transitory 'self-images' become crystallized into a more or less stabilized 'self conception' of oneself as a certain type of object. With these self-conceptions, individual actions take on consistency, since they are now mediated through a coherent and stable set of attitudes, dispositions or meanings about oneself as a certain type of person.

According to Mead there are three stages in the development of self.

(i) The initial stage of role taking in which self-images can be derived is termed 'play'.

(ii) The child identifies with the role of what Mead calls 'particular others' such as father, mother, etc.

(iii) Later by virtue of biological maturation and practice at role-taking, an organism becomes capable of taking the role of several others. Mead termed this stage 'game' because it shows the capacity to derive multiple self-images from and to cooperate with, e.g., a group of individuals engaged in some coordinated activity.

In this process 'I' converts into 'me'. So long as the child has not identified or understood the roles of others he/she is only 'I'. With his/her identification with other 'I' gets converted into 'me'. This conversion of 'I' into 'me' signifies the socialization of the child. The final stage in the development of self occurs when an individual can take the role of the 'generalized other' or 'community of attitudes' evident in a society. At this stage, individuals are seen as capable of assuming the overall perspective of a community, or general beliefs, values, and norms. Thus, it is this ever-increasing capacity to take roles with an ever-expanding body of others that marks the stages in the development of the self.

According to Mead, the individual and society are inseparable. Society represents the organized interactions among diverse individuals. Thus, the individuals create social environment. On the other hand only society makes an individual a human being. As we have already seen, the self of the individual develops from interaction with others in society and interaction is made possible through communication. The communication is based on symbols with shared meanings.

3. Freud's psychoanalytic theory

According to Sigmund Freud's theory of socialization the human personality is the product of the interplay of biological, psychological and social faculties of the individual. While

explaining the behaviour pattern and personality traits of individual, Freud formulated three basic principles. These are:

(a) Every conscious action has a cause in the unconscious

(b) That conscious is simply a puppet in the hands of unconscious

(c) That whatever one becomes as an adult was determined to be so in his/her early childhood

Thus, according to Freud's principles a major part of human personality is formed in the childhood and during rest of the life it is elaborated and sharpened. In this sense Freud reiterates the role of primary socialization in the formation of personality. According to Sigmund Freud, human mind has three main regions:

(a) Consciousness

(b) Pre-consciousness

(c) Unconsciousness

The conscious region of mind relates the individual with present events and activities in life. The preconscious region stores up memories, which easily enter the consciousness. Such a memory can readily be called to mind, for example, say the word school and you will recall an incident or a series of incidents from your school days. The unconscious region is the storehouse of all the repressed desires and bitter experiences which are unacceptable to the conscious mind. These repressed desires come to the level of consciousness either in a disguised form or in psychoanalysis.

The unconscious is the predominant content of the mind in relation to the amount, which is in the consciousness at any given time. The conscious is comparable to foam on the surface of the vast and deep sea of unconscious. It is much more powerful, ruthless, illogical and pleasure seeking than the consciousness. For a more comprehensive analysis of the human personality, in his later writings, Freud shifts his emphasis from the regions of the mind to the structure and function of personality. It is the interaction among 'id', 'ego'and 'superego'that gives a definite shape to the individual's personality. The structure of the mind is illustrated in Figure 8.1.

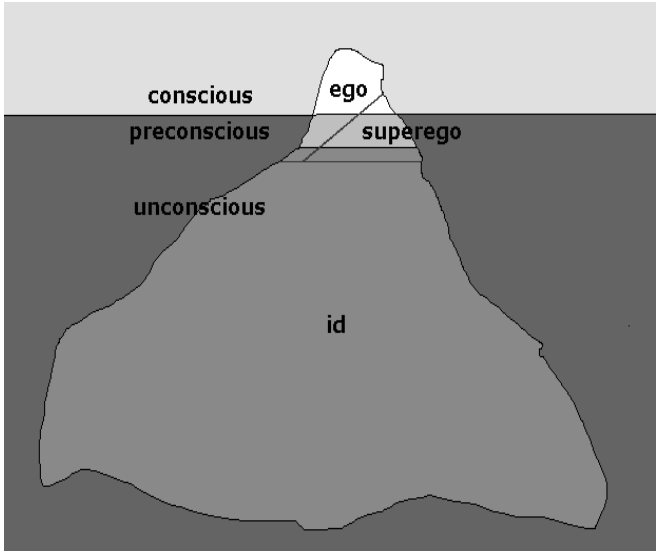

Fig. 8.1 *Diagrammatic Representation of the Structure of Mind*

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Id is the source of mental and instinctive energy. It is seated in the unconscious and works on 'pleasure principle'. It believes only in what Freud calls 'true psychic reality'. It knows nothing about rules, regulations, values and moralities and never bothers about the objective reality in society. The main objective of id is to avoid pain and discharge tension. It must satisfy its needs, even if it has to arrange imaginary means such as nocturnal dreams. But such imaginary means is not really capable of reducing tension. For example, the image of food cannot satisfy hunger.

The second important system of personality is ego. As we have already seen, at birth, a child is capable of only a few instinctive responses. With gradual physical and psychological development and due to some references from others the child develops the sense of 'I' 'my' 'mine' and 'me'. This is the beginning of the development of 'ego'. It occupies a central place in the structure of the psyche and is seated in all the three regions of mind. The basic difference between 'id' and 'ego' is that id knows only the subjective reality of the mind, whereas the 'ego' differentiates objective reality, i.e., concrete external reality from the subjective reality, i.e., imaginary reality. In order to avoid tension the id seeks to satisfy needs immediately, whereas the ego restricts satisfying needs unless an appropriate object of satisfaction is found. The ego makes the decision as to what is right and what is wrong, what is acceptable and what is not acceptable or what is possible what is not possible. The ego guides the individual in making a choice from among these alternatives on a realistic principle.

The superego is the third and the last system of personality. It is described as the earliest moral code of the child and in this sense it is the direct antithesis of id. Superego is also seated, like id in the unconscious region of mind. It stands for the values and norms of the society, which the child imbibes through the process of socialization. It strives for neither real, nor imaginary real. It is only concerned with what is ideal. Its primary function is to decide whether the chosen object of satisfaction of needs is right or wrong from the point of view of the moral dictates of society.

In this whole structure of psyche, the ego occupies a central place because it is expected to maintain a balance between the two opposite forces of id and superego. As we have already seen the id demands direct instinctual satisfaction whereas the superego as an internalized moral code checks the flow of the id into undesirable and unapproved channels. According to Freud, the sole purpose of psychoanalysis is to strengthen the ego. A weak ego is prone to all disorders. If the ego remains weak and id becomes stronger then the result would be an antisocial behaviour, delinquency or crime. If the superego starts dominating the psyche the result is suppression, leading to neurosis. Therefore, for the development of a healthy and socially useful personality, it is necessary to have a proper balance between the id, ego and superego.

Check Your Progress

8. Define socialization.
9. State any two characteristics of socialization.
10. What are the three basic elements of Cooley's theory of socialization?
11. According to Freud, what are the three main regions of the human mind?

SUMMARY

- Sociology, according to Duncan is the scientific study of dynamic processes of interactions of person and the patterns these form in relation to biological, psychological and cultural influences. It studies social phenomena, social organizations and cultural patterns.
- Educational sociology is a synthesis of education and sociology. It is the study of the principles of sociology of education. It is a science born of sciences. According

to E. George Payne, known as the father of educational sociology, educational sociology is 'an applied science in the field of sociology'.

- Educational sociology is not merely theoretical, i.e., it does not merely study the forces of interaction between the individual and the society or the group, but it is also practical because besides studying the interacting forces, it tries to regulate and control the interacting forces.
- The subject of educational sociology is the constant and dynamic interaction of the individual and his cultural environment or the basic pattern of life. It is, therefore, according to Dodson, interested in three things: total cultural milieu, the school as its agency and the educational process that conditions personality development.
- Educational sociology, according to Herrington, has four specific aims. They flow from the larger aim, i.e., to achieve better personality development by influencing the processes of education.
- Educational sociology should explain (a) the role of the school in the community (b) the role of the school (c) and the social factors influencing schools.
- Educational sociology should understand democratic ideologies, cultural, economic and social trends that influence formal and informal agencies of education.
- Educational sociology should estimate the social forces and their effects upon individuals.
- Social changes are the changes that occur in various components of socialization discussed above for whatever reasons and circumstances.
- There are different types of social change. The term 'social' is so vast in scope that different forms of change which carry several names of their own can actually be brought under the broader concept of social change.
- Socialization is a process, whereby people acquire the attitudes, values and actions appropriate to individuals as members of a particular culture.
- The home as an informal agency of education is the oldest institution. From time immemorial, the parents have been the chief teachers.
- It is at home that the child learns to walk and talk, to distinguish the simplest properties of the things that he sees and uses, to imbibe certain moral values, to differentiate between right and wrong, good and evil and to experience some of the deepest of human affections.
- The school can solve the social and cultural problems confronted by the community by many different ways. For example, the social problems like untouchability, health and hygiene should be discussed by the students, teachers and the members of the community and desirable solutions should be found.
- Cooperation between the society and its various units is very necessary. If there is lack of co-operation between family and school and between society and school, no suitable environment for the child will be possible the problem of cooperation between the society and school is not so complex as between the school and family.
- Education in the present day context is the most important and dynamic force in the life of individual, influencing his social development. It functions more as an agent of social change and mobility in social structure.

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KEY TERMS

- **Educational sociology:** It is the study of the principles of sociology of education.
- **Social changes**: These are the changes that occur in various components of socialization for circumstantial and fundamental reasons and circumstances.
- **Socialization:** It is a process, whereby people learn the attitudes, values and actions appropriate to individuals as members of a particular social group.
- **Ego:** It occupies a central place in the structure of the psyche and is seated in all the three regions of mind.

ANSWERS TO 'CHECK YOUR PROGRESS'

1. According to E. George Payne, 'educational sociology is 'an applied science in the field of sociology'. It is concerned 'with the effect of learning on group life and in its turn the effect of smaller group life upon the larger group, since the subject matter of educational sociology is the process of social interaction.
2. Educational sociology should estimate the social forces and their effects upon individuals.
3. Biology and psychology have been found to be incomplete in explaining human behaviour, and therefore needs to be supplemented by educational sociology.
4. To make the society worth living, education and society should be closely associated with each other.
5. Some of the ways in which education affects social change are listed below:
   - Education helps perpetuities, stabiles and consolidates some eternal values by means of its programmes and application, thus, inculcating faith in social change.
   - Helps understand and accept the emerging social change smoothly and willingly.
6. The two functions of schools as agents are:
   - Conservation and perpetuation of school life
   - Promotion of culture and civilization
7. Two educational functions of home are:
   - Emotional development
   - Development of mental ability
8. Socialization is the process of learning socially desired values, norms and roles by members of a particular group or society. Learning to live in society is called socialization.
9. Two characteristics of socialization are:
   (a) Socialization is a lifelong process
   (b) It helps in the inculcation of principles, values and symbols of a social system

10. The following are the three basic elements of Colley's theory of socialization:
    (i) Imagination of our appearance to the other person
    (ii) The imagination of his judgment of that appearance
    (iii) Some sort of self-feeling, such as pride or mortification
11. The three main regions of the human mind are consciousness, pre-consciousness and unconsciousness.

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QUESTIONS AND EXERCISES

Short-Answer Questions

1. Define social change and explain the concept in brief.
2. What are the determinants of social change?
3. How does education act as an instrument of social change?
4. How can education solve the social and cultural problems of the community?
5. What are the functions of the family as an agent of education?

Long-Answer Questions

1. Explain the nature of social change.
2. Which are the various forms of social change?
3. Describe the ways in which education affects social change.
4. Describe the evolution of schools as agents of socialization.
5. Explain any two theories of socialization.
6. In what way can schools be described as centres of community?
7. Discuss the importance of cooperation between school and society.

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UNIT 4EDUCATIONAL AND SOCIAL CHANGE IN INDIA

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Structure

INTRODUCTION

Scholars debate if change is a revolutionary process or it happens gradually. However, they settle with the fact that it is both an evolutionary and a revolutionary process.

Every change has an effect over different aspects of life and different components of the societal system. The development of the Internet, for example, in contemporary society has enormous implications for other institutions and ideas—it affects psychology, ideology, the political system, industry, education and the media. It is a revolutionary force but it builds upon previous developments so that it is both gradual and insurrectionary (Hoffman 2006).

It is a fact that a nation cannot move forward unless its education system is geared towards futuristic goals for the overall development of its various aspects such as economy and media. In this unit, you will learn about the various aspects of social change, the role of education as an instrument of social change, the meaning of modernization and the role of education in modernization.

UNIT OBJECTIVES

After going through this unit, you will be able to:

- Explain the concept, factors, conditions and constraints of social change
- Anlayse education as an instrument of social change
- Discuss the meaning of modernization
- Identify the role of education in modernization

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- Discuss agricultural, technological and industrial developments
- Explain how education helps in national integration
- Discuss the role of education in international understanding
- Describe the concept of internationalism in Indian education

MODERNIZATION AND EDUCATION

The report of the Education Commission (1964-66) states, 'The most distinctive feature of a modern society, in contrast with a traditional one, is in its adoption of a science-based technology. It is this which has helped such societies to increase their production so spectacularly. It may be pointed out, however, that science-based technology has other important implications for social and cultural life and it involves fundamental social and cultural change which is broadly described as modernization. Thus, modernization is a process of change from traditional and quasi-traditional order to certain desired types of technology. These changes take place in values, social structure, and achievements of the students. In the words of William E. Moore, 'Modernization is a revolutionary change leading to transformation of a traditional or pre-modern society into the type of technology and associated social organization that characterizes the advanced, economically prosperous and relatively politically stable nations of the western world.'

Nearly one-third of the countries of the world have been branded as developed countries and two-thirds as the developing countries. These developing countries have a traditional type of society. Their tradition is based on some unscientific attitudes which obstruct advancement. Their cultural life is based on superstition, ignorance and orthodoxy. Now there is a need to transform these countries into a society which is technology-oriented and scientifically attuned. This process of transformation is known as modernization.

Modernization refers to the changes in material elements and also the belief of the people, their values and way of life as a whole. The process of modernization aims at bringing about desirable changes in the social structure, values and the social norms.

Mere imitation of the way of life of the advanced countries is not modernization. Every developing country has a right to learn a lot from the advanced countries. But it should not be a carbon copy of some other country. A society can become modernized, if it does not lose its identity and makes full use of the discoveries and innovations in the field of science and technology. Such a society should use the natural resources profitably for improving the living conditions of the people. Instead of ignoring the cultural heritage, it adds some new cultural elements. It accepts scientific and technological advancement.

A modernized society is one which adopts a new way of life according to the changing circumstances and does not remain at a level of 10th century society. If it remains at the level, it will be just like persons who use a watch, travel by train and bus, watch television, but follow the traditional way of life. Modernization is a process of changing the outlook of man. In this respect, education plays a very important role.

Modernization versus Westernization

Some people consider Western way of life as an indicator of modernization. In order to be modernized, they blindly follow Western way of life, language dressing pattern. Thus, they become a carbon copy of the West. If we scientifically analyze the problem we will

find that modernization is in no way connected with Westernization. There are certain arguments, in favour of this view. First, it is not wise to say that the Western civilization can work as a model for all the countries of the world. Second, we cannot accept the Western way of living and thinking. For example, the world experienced two global was because of difference in economic and political ideologies. Third, some o the values of the West may not be accepted by different countries. Fourth, if we analyses the way of life of the Japanese, we will find that this country can contribute a lot to the process o modernization, even if it is a non-western country. Fifth, it is not at all desirable on the part of a nation to lose its identity in the name of modernization. It will be a destructive policy and will make a clean sweep of the entire cultural heritage. Thus, westernization should not be considered as modernization.

Industrialization is not modernization

Some people think if we can industrialize our country, we can be modernized. But by starting industries, modernization cannot take place. Industrialization can only help in the modernization process. It speeds up and directs the process of modernization. It cannot be considered as modernization itself. If we open an industry, we can change our economic life and understand the value of technological advancement. But it cannot be considered modernization. For example, the economies of some Middle Eastern countries have developed a lot because of the use of scientific methods of extracting oil. But the nations cannot be considered modernized, because they have not changed their traditional outlook.

We experience modernization in many different forms. The most spectacular of it is industrial and technological forms. Besides these, modernization also takes place in the field of education, culture, social order, methods of agriculture, bureaucracy and so on. When changes take place in these areas, we call it modernization.

Development of modernization

History of modernization states that it was first initiated by West European countries and the USA. Rapid industrialization and their monopoly in the markets of their colonies changed their economy. As a result of this there took place a change of attitude. They also influenced their colonies towards their way of life. Thus, started the process of modernization.

With the outbreak of October Revolution in Russia in 1917, another type of modernization began. It started with non-capitalist economy. Emphasis was laid on public ownership of the means of production and distribution. Many developing countries of the world followed their pattern. Thus, modernization began with two patterns—the capitalist and the non-capitalist.

9.2.1 Role of Education in Modernization

From the discussions above, it appears that patterns of modernization have many implications for education. The capitalist pattern of education aims at developing affluent society and enables every individual to further his interests. The non-capitalist pattern of education aims at eradicating poverty and removing disparities in every field. They aim at social uplift but not the uplift of an individual in his own personal capacity. People purchase education in a capitalist country. But education is meant for all in a non-capitalist country.

Education in the present day context is the most important and dynamic force in the life of an individual, influencing his social development. It functions more as an

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agent of social change and mobility in social structure. It leads to economic development by providing ways and means to improve the standard of life. The positive attitude towards education leads to socio-economic mobility among the individuals and groups. That means, a person who is born in an agricultural family can, by means of education, become an administrator or any other government employee. Secondly, education leads to change in the lifestyles of people. It modifies the attitudes, habits, manners and their mode of social living. Thirdly, the education is responsible for inter-generational mobility among the individuals and groups. Through inter-generational mobility, social groups are able to maintain their status and the status of their family. Therefore, it can be said that education plays an important contributory role in the mobility of individuals and groups regarding their social position, occupational structure, styles of life, habits and manners.

Education in a modern society is no longer concerned mainly with imparting of knowledge and preparation of a finished product, but with the awakening of curiosity, the development of proper interest, attitudes and values and the building up of such essential skills as independent study and capacity to think and judge for ourselves, without which it is not possible to become a responsible member of a democratic society. Therefore, the process of modernization will be directly related to the process of educational advancement. A sure way of modernizing a society quickly is to spread education, to produce educated and skilled citizens and to train an adequate and competent intelligence, coming from all strata of society and whose loyalties and aspiration are deeply rooted in the sacred soil of India.

Explosion of knowledge

There has been an unprecedented explosion of knowledge in the last few decades. In a traditional society, the quantum of knowledge is very limited and gradually increases so that the main aim of education, i.e., preservation, promotion and maintenance of existing culture is achieved. But in the present society, the quantum of knowledge is vast. Hence, one of the important tasks of education in the present day society is to keep pace with this progress of knowledge. Knowledge these days should not be received passively. Rather, it should be discovered actively. For example, when the traditional society lays emphasis on 'to know' only, the modern society lays stress on 'to know by heart'. Thus, it encourages creative and critical knowledge. In the words of the Education Commission, 'In India, as in other countries where similar conditions prevail, this would require, among other things, a new approach to the objective and methods of education, and changes in the training of the teachers. Unless they are trained in new ways of teaching and learning the students in schools and colleges will not be able to receive the type of education needed for the new society.'

Rapid social change

Another important feature of the present day society is the quick and breath-taking rate of social change. Due to the rapid change, the centres of learning should be alert in order to keep abreast of significant changes that are taking place in the society. There is need for adopting a dynamic policy in the field of education. The system of education which does not take into account this aspect, becomes out-of-date and out-of tune and stands in the way of development, both in quality and quantity. The Education Commission, therefore, recommends, 'The very aim of education has to be viewed differently it is not longer taken as concerned primarily with imparting of knowledge or the preparation of finished product, but with the awakening of curiosity, the development of proper interest,

attitudes and values and the building up of such essential skills as independent study and the capacity to think and judge for oneself without which it is not possible to become a responsible member of a democratic society.'

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Need for rapid advance

Once the process of modernization is launched, it is not possible to go back or to stop the process half-way. At the initial stage there is a possibility of disturbance of the traditional equilibrium reached and maintained over centuries. Besides this, there is the possibility of a lot of unexpected social, economic, cultural and political problems. If we do not accept these changes or if our convictions become half hearted, the new situation will become worse than the traditional one. Hence, it is wise to move rapidly forward and create a new equilibrium, based on the process of modernization.

Modernization and Educational Progress

On modernization and education progress, the Education Commission states, 'The progress of modernization, will therefore, be directly related to the pace of educational advance and the one sure way to modernize quickly is to speared education, produce educated and skilled citizens and train an adequate and competent intelligentsia.'

The Indian society today is heir to a great culture. Unfortunately, however, it is not an adequately educated society, and unless it becomes one, it will not be able to modernize itself and to respond appropriately to the new challenges of national reconstruction or take its rightful place in the community of nations. The proportion of persons who have so far been able to receive secondary and higher education is very small, at preset less than two per cent of the entire population. This will have to be increased to at least ten per cent to make any significant impact. The composition of the intelligent must also be changed. It should consist of able persons, both men and women drawn from all strata of society. There must also be changes in the skills and field of specialization to be cultivated. At present, the intelligentsia consists predominantly of the while-collar professions and students of the humanities while the proportion of scientists and technical worked in its ranks is quite small. To change this, greater emphasis must be placed on vocational subjects, science education and research. The average level of competence is not at all satisfactory due to inadequate standards maintained in the universities. This is inadequate standards maintained in the universities. This is damaging to Indian academic life and its regulation. In order to change this situation radically, it will be necessary to establish a few 'major' universities in the country which attain standards comparable to best in any part of the world, and which will gradually spread their influence to others. In the changing contemporary world, function and organization of education at different stages need rapid evolution to meet the demand of modernization.

Modernization is a process of bringing change. But this change does not necessarily mean a complete isolation from our own tradition. In order to modernize society, attempt must be made on the foundation of the past, reflecting the needs of the present and vision of the future society. Modernization of Indian society should be based on moral and spiritual values and self-discipline. The Kothari Commission, therefore, opines that 'modernization aims, amongst other things, at creating an economy of plenty which will offer to every individual a larger way of life and wider variety of choices. Freedom of choice has some advantages no doubt, but it also depends on the value system and motivation.'

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Knowledge and power of the people age expanded because of modernization it is, therefore, necessary to strengthen and deepen the sense of social responsibility and power of appreciation of the spiritual and moral values.

Modernization should not be madly followed at the cost of human values. Therefore, attempts must be made to inculcate value-oriented deduction at all stages of education children should learn to maintain a balance between spiritual and material values of life while modernizing them.

AGRICULTURAL, INDUSTRIAL AND TECHNOLOGICAL DEVELOPMENTS

'Social change is a term used to describe variation in or modification of any aspects of social processes, social interactions or social organization', (Jones) and are 'variations from accepted modes of life' (Gillin & Gillin) existing in a society from time to time.

Society is dynamic, it grows and it grows through social change caused by various circumstances and reasons over a period of time. Social change is, in fact, a variation in perception between generations separated by time and space.

Factors and Conditions Influencing Social Change

We have already made a passing reference in a preceding section to some of the factors that influence and cause social change. These are called the determinants of social changes and are structural in nature as they may affect the social structure of a setup. The determinants of social change, hence, are:

- Physical environment
- Scientific and technological advancement
- Inter-dynamics

Forms of social change

There are different types of social change. The term social is so vast in scope that different forms of change which carry several names of their own can actually be brought under the broader concept of social change. However, different types of change are discussed below for better understanding of the concept.

1. **Social and cultural change:** Social and cultural changes are often regarded as the same and denote similar kind of change. However, there are differences between the two. Social refers to interactions and interrelationship between people. Culture on the other hand refers to the customs, beliefs, symbols, value systems and in general the set of rules that are created by people in society. It can be both material and non-material. Material culture consists of manufacturing objects and tools like automobiles, furniture, buildings, roads, bridges, books, mobiles, TV sets and anything of that sort which is tangible and is used by the people. Non-material culture includes belief systems, values, mores, norms, habits and language. The concept of culture relates to the body of knowledge and techniques and values through which a society directs and expresses its life as an interacting entity (Mohanty 1997). So, the change in social relationships, human interactions, modifications in role expectations and role performance are regarded as social change, whereas changes in human artifacts, beliefs, values and body of knowledge are called cultural change.

Check Your Progress

1. Define modernization.
2. What is the role of education in modern society?

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Culture changes through time and it spreads from place to place and group to group. As Biesanz and Biesanz (1964) put it, in the span of time since the Second World War, immense changes have taken place. Television, since the experimental stage before the war, has entered almost every living room in the world. From the first atomic reaction in the early decades of 20th century, we have progressed to space capsules and satellites and in a few short post-War years, plastics and synthetic fabrics, wash-and-wear clothes, stretch socks, automatic washers, dishwashers, clothes driers, food freezers and packaged mixes have changed the housewife's fate.

It is important to mention here that sometimes changes that occur in a cultural system don't go smooth and face maladjustment with other parts of the system. Such a situation is termed as cultural lag. Defining the concept, Ogburn (1957), wrote, 'A cultural lag occurs when one of the two parts of culture which are correlated changes before or in greater degree than the other parts does, thereby causing less adjustment between the two parts than existed previously.'

However, any cultural change has its impact on human relationships and, therefore, influences social changes too. The advent of mobile telephony and internet has far-reaching consequences on interpersonal relationships. Thus, cultural change positively affects social change and change in a society comes through both social and cultural changes.

As Kingsley Davis stated, cultural change is broader than social change and social change is only a part of it (Shankar Rao, 2000). All social changes are cultural changes, but not vice-versa. Those cultural changes that affect social organizations and human interpersonal relations can be called as social changes.

2. **Social change and social progress:** Progress is a change in a desirable direction. It can also be referred to as change for the better. It involves value judgement because it implies betterment or improvement. Progress involves change that leads to certain well-defined goals. It is also a type of social change. However, there are differences between the two. Every change is not progress, but every progress can be called as a change. Moreover, change is a value-free concept, while progress always denotes change for the better. In that sense, progress is a value laden concept. It has been discussed before that change can be planned and unplanned. Nonetheless, progress is always planned and ideally fixed. Besides, change is obvious and certain. Small or big, slow or fast, change takes place in every society, but progress is uncertain (Mohanty, 1997).

3. **Social change and social evolution:** The use of word evolution or social evolution in sociology is borrowed from biology. Biology studies organic evolution which denotes the evolution of all kinds of organisms. Social evolution on the other hand refers to the process of evolution of human society, human social relationships, societal values, norms and the way of life. It involves the idea that every society passes through different phases, from simple to complex.

   Sociologists and social anthropologists were impressed by the idea of organic evolution which could convincingly explain how one species evolves into another, and wanted to apply the same to the social world (Shankar Rao 2000).

   As put forward by MacIver and Page (2005), evolution means more than growth. Growth does connote a direction of change, but it is quantitative in character. Evolution involves something more intrinsic, a change not merely in size, but at least in structure also. Social evolution is also a type of social change. Both of

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them are natural and are inevitable facts of life. However, there are differences between the two. First, every change is not evolutionary in nature, whereas, evolution always implies change. Second, evolution, unlike change is a continuous process. Third, the cause of social change may be both internal and external, whereas evolution is mostly affected through the operation of internal factors. Fourth, social change can be planned or unplanned but evolution is an automatic process. Fifth, social change is a value-neutral concept, whereas evolution is value-loaded. Sixth, there can be slow or fast social change, but evolution is always a slow process (Mohanty, 1997).

As discussed in the beginning of this sub-section, any kind of change that we witness in the society can come under the broader definition of either social or cultural change. However, some specific variety of change can also be discussed here, although they come under the umbrella term of social or cultural change.

4. **Demographic change:** Demography deals with the size, distribution and growth of population over a period of time. Demographic change is change in the patters of fertility, mortality, age structure and migration. High fertility or high mortality can have important implications in any society. The same can happen if the rates of such indicators are too slow. High fertility might lead to large-scale instances of poverty and unemployment, and might affect the developmental efforts of a state. Over-population also leads to greater use of natural resources and affects environmental sustainability. High birth and death rates bring about change in the attitude of people towards family and marriage.

   In India, demographic change in the form of high fertility led to the adoption of family planning programmes and following which there was a decrease in the population growth rate. The small family norm has introduced change in social relationships between husband and wife, parents and children, the status of women and so on.

5. **Technological change:** The human civilization is moving from the most rudimentary technology of bow and arrow to the modern and highly sophisticated instruments of the present day. The invention of computers, Internet, mobile phones, jet planes, atomic bomb and discoveries made by men like Vasco da Gama and Columbus have changed the socio-cultural space of the modern man dramatically. Ancient man walked bare feet, then came the bullock cart which moved comparatively faster. Subsequent technological innovations brought about bicycles, automobiles, jet planes and so on. These have helped the movement of people faster than ever before. These technological changes have enormous societal implications. The introduction of high-yield seeds in the form of Green Revolution in India that ensured massive increase in food grains like rice and wheat managed the hunger situation in the country quite well. Dramatizing the fact that technological change may lead to social change, sociologist William F. Ogburn once attributed the emancipation of women to the invention of the automobile self-starter, which enabled women to drive cars, freed them from their homes and permitted them to invade the world of business (Biesanz and Biesanz 1964). The modern means of entertainment and communication like TV, and laptops or tablets, Radio, Internet, cell phones have drastically changed the family life in India and substantially affected the role of women in society. Not only are they empowered and emancipated but also the husband-wife ties are now being seen as that of co-partners rather than that of superiors and inferiors. Although technological changes

have not spread equally everywhere in the country, still phenomenal improvement in this respect cannot be ignored.

6. **Economic change:** Economy plays a cardinal role in man's daily life. Noted sociologist and philosopher, Karl Marx pointed out the significance of economy as a factor in social change. As he says, a conflict between the oppressor and the oppressed, haves and the have-nots brings change in the society and the society transforms to a new mode of production. In this manner, Marx says, society gets transformed from primitive communism to slavery, slavery to feudalism, from feudalism to capitalism and from capitalism to a classless society (Morrison, 2006). In Indian society, industrial economy brought enormous change in the lives of people.

   Not only did it change the occupational structure in the society but also affected inter-personal relationships. People from rural areas migrated to cities to work in factories. This drastically reduced the effect of caste/untouchability and also transformed joint families to nuclear households. India, once an agricultural economy, is now manufacturing industrial products to emerge a world leader in producing software, making it a service economy. Software giants like Infosys, Wipro and TCS are world renowned. So, the economic change is one of the important forms of social change.

Interrelationship between Change and Development

Development is a form of change. However, there are differences between the two. Change is a value-neutral concept while development, as discussed in the previous sections, is value-loaded one. Change is ethically neutral and suggests alterations or modifications in the structure and functioning of society over a period of time. Development on the other hand advocates change for good. It is a process of desired change. Although development leads to change, all forms of change don't indicate development. Those changes which are planned are termed as development. A change to be defined as development must occur continuously in a desired direction. These desired goals are set looking at the values, norms and needs of any society. Any change in society must get absorbed in the system and must be felt by the people to make it more effective. Such change can then be regarded as development.

Advancement in education and modern means of transport and communication has resulted in high female literacy in the modern societies. This has led to women joining in various jobs in both government and non-government establishments, changing the family relationship as a whole. Such a move leads to a situation like role conflict where the modern women are confused whether to perform the role of a traditional family woman, a mother, a daughter, a wife or to play the role of a teacher, an administrator or an engineer. Such a phenomenon is an example of social change.

However, such change can be regarded as development only when proper institutional arrangements and social adjustments are made so that working woman does not face the situation like role-conflict and manages both her roles well. Such institutional arrangements and social adjustments will then be called as development (Jena and Mohapatra, 2001; Mohanty, 1997).

Development is a multi-faceted term and there is a lot of confusions over its meaning and definition. Questions are often raised about how one should count the development parameters. How can a society be called developed and underdeveloped?

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What should be the basis? Education is the medium through which the members of society are socialized and the modern means of knowledge, skill and technique are imparted to them. Formal education and training expands opportunities for people and increase their capacities.

Availability of educated labour force in a country is a prerequisite for development, better governance system and healthy functioning of democracy. In India, to eradicate illiteracy, the successive governments have come out with policies like Sarva Shiksha Abhiyan (SSA), Midday Meal Scheme, Mahila Samakhya Scheme, and Teacher Education Scheme. Following the National Literacy Mission (NLM), set up in 1988, the Total Literacy Campaign was initiated to eliminate illiteracy. India's soaring literacy helped the country to become a knowledge economy. From a mere 12 per cent during Independence, India's literacy has reached 74 per cent according to the 2011 census. This is a strong indicator of development.

Result of Social Change

The form of each aspect of social life is being continually transformed to the effect of the aforementioned factors which cause social change. New institutions and associations are being formed and destroyed in all spheres. The form of family, marriage, state, religion, civilization, culture educational system, economic structure and social structure is always changing and being transformed. As a result, a change occurs in the life of an individual and his relations with others. To take an example, the result of social change can be well understood and realized by studying the history of the objectives, structures, forms, importance, and functions of the family from the early past to the present day. Similarly, the change and difference that is seen between the tribal society and present day society can be attributed to social change. Weinberg and Shabat have correctly said, 'Social change lies at the heart of the modern world.'

Education today

Education in the present times is geared towards the promotion of a society that is urban and thrives on competitive consumerism. With the help of the education system that currently exists in India, several scientists have emerged, including technocrats and professionals who have excelled in their fields and made a mark at both national and international levels.

The question is not to what extent the education system provides employment but that it provides modern technology that benefits the deprived and the poor. The question here is that of educational quality.

Rather than just look upon the ever increasing population as being a liability, the right thing to do is to convert this population into the nation's strength and asset and at the same time try to control the growth of population. This is possible through human development and education.

The present education system in India seems to possess the following three major deficiencies:

- It is incapable of fortifying or even generating such knowledge which will be relevant to India's changed society.
- The technology which is associated with a specific body of knowledge is not appropriate for the stage of development that India is in so far as the demands of investment or employment potential are concerned.

- Education has been incapable of providing value framework that could have created committed professionals technocrats bureaucrats and politicians who could have taken India to the highest levels by providing the nation with sophisticated system of support services.

Despite the fact that education cannot ensure that every individual will attain a high position or high status, in the absence of education it is not likely that an individual will attain social mobility. There are three ways in which education helps to equalize opportunities:

- Providing opportunity to everyone who wants to be educated and has the ability to benefit by that facility
- Developing such education content which is capable of promoting the development of an outlook which is both objective and scientific.
- Creating a social environment of mutual tolerance based on class caste language religion and so forth, for making available to all the individuals within the society equal opportunities of social mobility, and also providing equal opportunity for secure good education.

Social change and the indian educational system

As we have already established, when social change occurs, there is need for the educational system to respond with adapting to the change. If the change in the educational system is not in keeping with the changing needs, goals, objectives, and aspirations of the various social groups, then a lag will be created between the society and the education system. There have been several such lags in the Indian educational system post-Independence and this had led to education performing a dysfunctional role in the Indian society. This has been fully accepted by the Kothari Commission as the quoted text below reveals:

> 'As is well known, the existing system of education is largely unrelated to life and there is a wide gulf between its content and purposes and the concerns of national development Instead of promoting social and national integration and making an active effort to promote national consciousness, several features of the educational system promote divisive tendencies; caste loyalties are encouraged in a number of private educational institutions; the rich and poor are segregated, the former attending the better type of private schools which charge fees while the latter are forced, out of circumstances, to attend free government or local authority.'

Agricultural Developments

India's Green Revolution provides an example of development initiative that is planned and it we can study each one of the features that are associated with and essential to a process of development. Upto the 1960s, there was no marked difference in the way agriculture was practiced in India from how it was practiced during the British rule in India, about 200 years back.

In India, we look at the Green Revolution as being that which introduced into the mainstream of agriculture hybrid varieties of grains, wheat and rice. It must be noted that it is not just adopting these hybrid seeds that brings about green revolution, but for the success of the revolution there is also a need for a comprehensive and well-coordinated programme involving multiple changes in the way society managed the production of food.

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Agriculture in India, before the Green Revolution, followed the pattern of subsistence-level farming, and therefore the produce was not enough to fulfill the nation's food needs. Often, this would cause shortage of foods and at times even famines. Such adverse situations were dealt with through imports from other nations. With the Green Revolution India made an effort to end this pattern and make India a self-sufficient nation in terms of food production.

It was realized by the Indian government that for the success of the Green Revolution several things needed to be done to garner cooperation from the Indian farmers. To begin with, there was the need to convince farmers that the use of the hybrid varieties of seeds would provide them with higher yields than the traditional seeds that they were using. The farmers also needed to be given the assurance that prices would not come down just because the production had increased. It was also the task of the government to make available high quality seeds, fertilizers, and even ample space for storage. A network of extension agents had to be trained who would further train farmers on the means of using new methods for cultivating their fields.

It was an amalgamation of social change, education, technology and more that helped to achieve this great success and development in agriculture in India.

The above mentioned tasks were accomplished by the government through the formulation of several new organizations. The Food Corporation was set up to procure food grains from surplus production areas and distribute it in the areas with shortages. It constituted an Agricultural Pricing Commission to ensure a minimum floor price to farmers so that there was no disincentive for increased production. Formation of seed and fertilizer corporations was done to make sure that there would be a steady supply of good quality fertilizers and seeds, among other things needed by the farmers to work within the new method of agriculture. There was a lot of motivation amongst agricultural scientists to work better and they were provided better infrastructure facilities and better pay scales.

Above it all, 100,000 demonstration plots were established by the government across the nation to convince the farmers that higher yield would be obtained with hybrid varieties. The success of the Green Revolution can be attributed to several factors one of which is that it was a planned initiative and another that it was a programme that was well conceived and consciously implemented.

Technological Developments

Besides the development in agriculture, a nation's economic growth to a huge extent dependent on technological improvements and upon its technical and scientific human resources. Therefore, technical education plays a critical role in accelerating a nation's industrial development. It makes available a very potent means of skilled manpower development which is needed by the different sectors of the nation's economy. To quote P. R. Dasgupta, 'India possesses Asia's oldest, largest and most diverse infrastructure for scientific and technical training that has made important contributions to the country's scientific and industrial development'.

In India, the structure of the system of technical education comprise several sub-systems like the state and the central governments, universities, All India Council for Technical Education (AICTE), various professional bodies like Pharmacy Council of India and Council of Architecture, and the management committees of individual institutions. The amended Indian Constitution fixes the responsibility for higher education or research and scientific and technical education on the Centre.

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In 1948, AICTE was constituted by the Government of India as an advisory body for all matters associated with technical education. AICTE, in 1988, got the 'statutory authority for planning, formulation and maintenance of norms and standards, accreditation, and ensuring the coordinated and integrated development of technical and management education'. In the states, there are three agencies that take care of technical education—State Board of Technical Education, state universities to which college are affiliated and the Directorates of Technical Education.

The 1986 National Policy on Education (NPE) inter-alia defines the policy of the Government pertaining to management and technical education. It stressed on the fact that there was need to reorganizing the system of management and technical education for effectively catering to the changes that were continually taking place in the 'economy, social environment, production and management processes' and to cater to the rapidly expanding knowledge and the advances in science and technology.

Specific guidelines was put down by NPE 1986 for quantitative and qualitative development of management and technical education sectors, for setting up of links between the concerned agencies, assessment of manpower and forecasting of technical education, increasing effectiveness of the system for management of technical education, its delivery systems, put in place such measures which will help in the attainment of better cost effectiveness and resource generation. It has also been emphasized by the National Policy on Education that there should be modernization and removal of obsolescence of workshops and laboratories in polytechnics and engineering colleges for furthering functional efficiency.

Since 1947, due to efforts being made continuously, facilities of technical education in India have seen phenomenal growth. This could be achieved because of careful planning, objective setting, superlative implementation, review of situation and, where required, implementing corrective measures.

There has been a huge rise in formal educational opportunities which is visible in the ten-fold increase in the number of engineering colleges and nearly twenty-fold increase in diploma polytechnic institutions post-independence.

Post 1947, the system of technical education in India became characterized by a tremendous growth the number of student enrollments and even institutions, the wide subject areas and specializations, the setting up of institutions of national importance, setting up of regional-level institutions of excellence, rise of unaided private institutions and the rise of non-formal sector in technical education and even setting up of distance learning programmes at both state and national level.

What expansion took place in technical education happened mainly due to the reasonable investments put into each of the Five Year Plans. Key to this expansion of facilities for technical education is also the role played by private initiatives.An extremely pro-active role has been played by the Government with providing income tax exemption on the donations that are received by the educational institution from private sources. Furthermore, basis a Supreme Court judgement, it is the tuition fees' rationalization that has garnered the enthusiastic response of participation from the private sector.

In technical institutions, the various funding and control patterns have led to different organizational structures in technical education. These structures can be put in different categories on the basis of types of institutions like the Indian Institutes of Technology (IITs), Regional Engineering Colleges (RECs), Government Colleges/Polytechnics, Government -Aided Colleges/Polytechnics, Self-Financing Private Colleges/Polytechnics and Institutes awarding PGDBM/PGDCA. Indian Institutes of Management (IIMs)

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and Indian Institutes of Technology (IITs) are established as institutions that are of national importance and these hold more autonomy in the areas of administration and academics. Besides the system of education of polytechnics and engineering colleges which is formal, several professional bodies exist which hold examinations for serving professionals and award certificates and diplomas recognized as at par with degree/ diploma of the formal education system.

For the computer education field, there is an elaborate system of the Department of Electronics (DoE) for providing accreditation to computer institutes in non-formal sector for conductive of specified levels of courses - DOEACC level "O", "A", "B", & "C" if they can meet the criteria and norms laid down by DoE. For education in architecture and pharmacy, it is the Council of Architecture and the Pharmacy Council that hold the statutory obligations and they work closely with AICTE.

Putting in concerted efforts through all the Five Year Plans, India has seen a thumping growth in technical education in the past four decades. Despite the current existence of a diverse infrastructural base, there is a threat to institutional growth and technological capability due to certain distortions and imbalances.

Industrial Developments

Sustainability is threatened due to complex and sudden change in the nation's industrial base as also due to global competition after economic liberalization. To quote P. R. Dasgupta, 'Further, essential initiatives which are entrepreneurial and creative in character and necessary for the indigenous technical manpower to obtain a competitive edge are yet to emerge from the system in a big way.' Additionally, industrial employers do not adequately possess the skills imparted to technical manpower by the system.

It is seen that even in the current style in technical education there is a very low level of participation of women and other sections of society who are considered to be deprived. In technical institutions, there is scarcity of joint collaborative projects with user systems and private sector investment. In technical education's growth, there is a major region-wise imbalance.

Sustaining the current infrastructure, furthering technical education, enhancing output quality, bringing in some new and innovative thrusts and encouraging new thinking in the system should be the plan for future. Furthermore, the focus must be to better govern and manage the existing infrastructure so that accountability and transparency are apparent to the user systems. Also, networking between institutions and multiple utilization of infrastructure facilities needs to be encouraged for resource utility optimization and for spreading excellence among the institutions.

NATIONAL INTEGRATION

National integration is the awareness of a common identity amongst the citizens of a country. It means that though we belong to different castes, religions and regions and speak different languages we recognize the fact that we are all one.

- Identification of people with nation as a whole and not with sectional identities.
- Doing away with inter-state, inter-linguistic, inter-religious and inter-cultural differences and fostering a spirit/attitude of tolerance, respect and an appreciation of the view-point of those belonging to other states or other linguistic, religious and cultural groups.

Check Your Progress

3. Why was the Food Cooperation of India set up?
4. When was AICTE set up?

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Organizing co-curricular activities for national ontegration

These activities prepare the students for national integration in a direct and an indirect way. They exercise a more effective and useful impact on their personality. This place is comparatively higher than other place. Following are some of the activities that can help in national integration:

- Celebration of national days
- Celebration of birthday's of great men
- Celebrating cultural festivals
- Celebration of festivals
- National Anthem
- Donating Blood
- Organizing adult education programme
- Bulletin board
- Exchange of teachers
- Participating in social activities
- Respecting the National symbols

Adult education

Mass illiteracy and lack of proper education, endanger national solidarity. India is still a land of mass illiteracy. Adult education programmes should be organized while keeping in view the development of national consciousness and national solidarity.

Religious and moral education

It emphases the brotherhood of mankind is a great persuading force to bring about emotional and national integration. True secularism is not opposed to religious and moral teaching rather secularism implies true religion and morality.

Taking pledge

Students may be asked to repeat a pledge twice a month dedicating themselves to the service of their country and their countrymen.

Role of Teacher in National Integration

Teacher should play a very effective role for the promotion of national integration. Only national minded teacher can strengthen the spirit of unity and the idea of compositeness. A teacher can make the following contributions:

- **A living model:** A teacher has been regarded as the builder of the nation. He influences the students by his behavior. He should have a national outlook and reflect national consciousness, actions, conduct and behavior so that the students may receive the message of national integration.
- **Broad outlook:** He should rise above petty biases and prejudices. He should be impartial and treat his students equally without distinction of caste, sex, creed, colour and religion.
- **Firm faith:** He should have firm faith in national unity and love for the country.

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- **Saying and doing:** What a teacher does speaks more loudly than what he says. He should do whatever he says. There should be no difference in saying and doing.
- **Correlation:** Teacher must introduce his country in his lessons. The history of His country, its cities, its rivers, its songs, its people etc. History, civics and geography, literature, art and music should be taught from the national point of view.
- **Writing books:** Teacher should co-operate in recasting books on Indian history, civics, literature and language etc. leading the students to appreciate historical, social, cultural, linguistic and religious of the people of India.
- **Moral duty:** Teacher should prepare the students mentally for national integration.
- **Newspaper and books:** The teacher should stimulate students to read newspapers and books of non-communal nature throwing light on the contributions of nationalists.
- **Inspiration:** Teacher should inspire them for having faith and love for national language, national literature, national culture, national festivals, national symbols and national glory.
- **Check wrong tendencies:** When the teacher notices that young minds are going towards casteism, linguism, narrow mindedness, rowdyism and hooliganism, he should try to check them.
- **Implementing government programmes:** The directions and programmes of the government for developing national integration should be taken more seriously and implemented.

National integration is vital for India's survival. It is the cry of the moment. The country must mobilize all its resources to evolve a concrete national programme. The future of the nation is dark unless a high national character of the people is developed

INTERNATIONAL UNDERSTANDING

The spirit of love, cooperation and friendship among all nations of the world and their people is called international understanding. International understanding is a synonym for world brotherhood or world citizenship. International understanding is opposed to extremist nationalism. This spirit expands an individual's outlook. It cultivates the spirit of 'live and let live'. Its main objective is the welfare of the human race.

Defining internationalism, Oliver Gold Smith has said that –'Internationalism is a feeling that the individual is not only a member of his own state, but a citizen of the world.'

Defining internationalism, Q. H. Sabine has written that–'International education, as I understand, it, can never be the negation of national education. It is its completion and its confirmation...International education means that we should seek the understanding of foreign languages and peculiarities through a profound realization of our own values and historical development...We are bound to recognize the perpetual interflow of international currents in the spiritual and economic planes.'

Dr. Walter H. C. Lewis, a former Deputy Director General of UNESCO in his address to the American Association of Teacher Education in Chicago in 1956 stated– 'International understanding is the ability to observe critically and objectively and appraise

Check Your Progress

5. What is national integration?
6. State any four ways that can help in national integration.

the conduct of men everywhere to each other, irrespective of the nationality or culture to which they may belong. To do this, one must be able to detach oneself from one's own particular cultural and national prejudices—and to observe men of all nationalities, cultures and races on equally important varieties of human beings inhabiting this earth.'

Cultivation of international understanding

Several efforts have been made since ancient times to establish peace and cooperation in the world. Indians have been educated in the concept of *vasudhaiva kutumbakam* or world brotherhood, which means accepting the whole world as your own family. In the sixth century, Pierre Dubois presented the view of establishing international schools. After him, in the seventh century, Comenius supported the establishment of Pansophic College that world harmony and peace should be realized for all mankind. In 1912, President Taft of the United States of America convened a conference at Hague for this purpose, but it was not successful. In 1926, the Commission of Intellectual Cooperation was established, but this commission could not succeed due to economic causes and lack of mutual cooperation. In 1925, the International Bureau of Education was set up.

Obstructions in the way of international understanding

There are various obstructions and barriers in the way of international understanding, which include:

1. **Physical barriers:** People of different countries live in isolation.
2. **Political barriers:** Narrow nationalism affecting understanding between nations.
3. **Economic barriers:** Restrictions on international trade, foreign exchange and currency.
4. **Religious barriers:** Religious barriers leading to prejudices.
5. **Linguistic barriers:** Different languages not allowing people of different linguistic groups to come closer.
6. **Psychological barriers:** Frustration and fear born of ignorance, selfishness and hostility leading to aggression and war.
7. **Educational barriers:** Teaching of social studies leading to narrow nationalism and narrow loyalties.

Internationalism in Indian Education

The Secondary Education Commission Report observes–

> 'There is no more dangerous maxim in the world of today than 'My country, Right or Wrong'. The whole world is now so intimately interrelated that no nation can or dare live alone and the development of the sense of world citizenship. In a very real sense, therefore, patriotism is not enough, and it must be supplemented by a lively realization of the fact that we are all members of one world and must be prepared mentally and emotionally, to discharge the responsibilities which such membership implies.'

Nationalism should not degenerate into nationalistic jingoism. Dr. Radhakrishnan states that–'We need today an adjustment of the human consciousness of the nuclear age in which we live. It is now conceivable that the human race may put an end to itself by nuclear warfare or preparations for it. This, if it happens, will be the result of the failure of man's consciousness to adjust itself to the technological revolution.'

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K. G. Saiyidain writes, 'There can neither be health, nor economic prosperity, nor the leisured pursuit of art and literature and culture in the world, that is either plunged in or over-shadowed by war.'

In the words of P. E. James, 'An industrial society, by its essential nature, is global in its scope and international in its needs. If it is to survive it must draw upon all the world's resources and the entire world's people must share its benefits. Our way of living is dependent on the coordinated economic activities of distant people. This is the concept of one world—of one community of interdependent peoples.'

Methods for Creating World Understanding

Teaching for world understanding should pervade the whole educational programme, which includes the attitudes of the staff members, curricular and co-curricular activities, and experiences of the school. We have to fashion and plan our teaching and learning process in such a way that children can grow with a sense of world-mindedness.

I. Curriculum

The curriculum should enable our students to:

(i) Learn that earth is the home of men and other living beings

(ii) Learn the similarities and differences of the people in the world

(iii) Learn the many ways of living on this planet and the reasons for the wide variety of modes of life

(iv) Learn that world is a place of beauty and serenity, which is in dire need of preservation

(v) Learn how to promote better understanding of the school spirit and the nature of the teacher-pupil relationship.

Direct teaching for international understanding is also possible. Many teachers believe that it should be undertaken with children from the age of seven and onwards. For example, they can begin to learn something about other countries, their customs and the activities of the United Nations and its related agencies. However, it is important not to confront children with information or abstract ideas beyond their grasp.

(a) Social studies

- Stories of the lives of great men and their main contribution to the world, which includes the lives of Rama, Krishna, Buddha, Jesus, Mohammed, Kabir, Vivekananda, Dayanand and many more as saints and religious reformers, and Mahatma Gandhi, Nehru, Kennedy, Tolstoy, George Washington, Sun Yat-sen and Lenin as fighters for freedom could be included in the curriculum.
- Lives of great scientists and mathematicians, which include Archimedes, Heraclitus, Euclid, Pythagoras, Raman, Faraday, Addison, etc., may be taken up in the form of a simple story and their contributions to mankind be highlighted.
- Adventures of explorers like Marco Polo, Scott, Magellan, Columbus, Vasco da Gama, etc. may be taught to the students.

(b) General science

General science could include topics on our daily necessities like food, water, air and weather. Common diseases of mankind may be included through which

reference could be made to what FAO, UNICEF, CARE, WHO and IMF are doing for us.

(c) Mathematics

The story of numbers, history of lines, and the story of Arab, Indian, Greek and Egyptian mathematicians may be told and simple projects can be devised.

(d) Language

Books on languages could also include the lives of great personalities of the world who have not been mentioned in social studies.

Middle-school stage

It would be worthwhile if social studies is taught as an integrated subject. Different units may deal with topics on 'Our Rights and Duties as Citizens of free India' (for class VI) and later include the world in class VIII or IX. Teaching human rights would also be possible in this context. Reading newspapers and books could also be an informative topic for class VI and include the work done by UNESCO toward paper and print.

At this stage, it would also be possible to make a comparative study of the religions of the world. In class VIII, common doctrines and tenets could be emphasized, for example, the Ramayana, Gita, Bible, Quran and Guru Granth Sahib along with Zoroastrianism and their Zend Avesta. Great religious personalities like Mahavir, Buddha, Shankaracharya, Nanak, Kabir, Vivekanand, Ramanand and Chaitanya of India, and those of other countries could also be introduced. Their unifying influence on our society and the removal of racial and other prejudices may be emphasized and a reference can be made to the aim of creating universal love for mankind, which is the cherished objective of the United Nations.

Higher secondary stage

International understanding could be promoted through History and Geography, but Civics and Economics provide an easier ground for pointedly teaching about the United Nations and its various agencies. Topics like nationalism and internationalism, the UNO, the former League of Nations, etc. invariably form a part of the Civics syllabus.

Through a study of science, mathematics, languages and arts, a fairly comprehensive study of important personalities and their work can be done by the children of higher secondary classes. In Science, they can have topics on mechanism, transfusion of energy, rockets, space-craft, evolution of earth, story of man and life on earth, through which the work of various organizations can be taught.

It is through literature and language that lives of great poets, musicians, singers, scientists and other great leaders could be taught with a comparative study of their philosophy and work. Works of famous personalities like Dante, Kipling, George Washington, Abraham Lincoln, Nehru, Lenin, Karl Marx, Romain Rolland, Shakespeare and other such men could be included in the curriculum.

Exchange Programmes within India and with other Countries

Different kinds of exchanges between schools in India and other countries could be profitably undertaken as an aid to promote international understanding. Such an exchange would include:

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1. Exchange of outlines of different projects regarding the study of countries
2. Helping students of one group to develop correspondence with children of the same age group in the country taken up for study. The correspondence could help children in collecting information about the varied aspects of the life of people in that country as well as the description of daily life at home, in school, entertainment, games, food habits, dresses, occupations and products
3. Teaching and exhibition materials could also be exchanged, which include:
   - Text-books, reference materials, children's magazines (manuscript and prints), scrap-books, albums, newspapers, tape recorders, folk songs and dramatic scripts.
   - Pictures and books of great men of science, arts, politics and leaders.
   - Children's books—folk tales, explorers, adventurers and prophets.
   - National songs, festivals and procedures for celebrating.

Exchange of teachers

The Indian National Commission and the Ministry of Education should expand the programmes of awarding fellowships to Indian teachers, enabling them to study and work in schools in other countries. Possibilities of school-to-school contacts for exchange of teachers in different parts of the country as well as between India and other countries should be explored. The Indian National Commission could help by preparing a list of such institutions which are interested in these types of programmes.

The help of voluntary organizations like New Education Fellowship, Rotary Club, Lions Club, Experiment in International Living, World Confederation of Organizations of Teaching Profession, Indian Council for Cultural Relations, etc. could be sought for such exchange purposes.

Exchange of students

There are great possibilities of promoting national understanding if educational authorities arrange short duration camps during holidays in which students from one region may live, study and work with students of another region. For the purpose of international exchange of students, the Scout Jamborees, the International Voluntary Work Camp Movement and other such projects may be explored.

Teachers' contribution to international understanding

Teachers can develop attitudes favourable to international understanding among their students. Regarding the role of a teacher, C.F. Strong has observed–'He and the curriculum represent two vital formative factors for translating the aims and ideas of education into practice.'

- **Teachers' role outside the school:** Outside the school, teachers can play their part as intelligent and educated adults. It is the duty of teachers, as people above average in training and in conscientiousness, to find time for grown-ups as well as children, and to give all possible support to those organizations which are concerned with informing and stirring the social conscience of the adult community.
- **Teachers' role in teaching social study:** Teachers must teach students to use their eyes and their ears with sufficient intelligence to distinguish fact from

propaganda and to substitute comprehension for prejudice. They must develop a proper regard for the use of reason rather than force.

- **Teachers' role in understanding the child:** A UNESCO publication reads as follows–"We hold that in a very real sense 'wars begin in the minds of men', that war is a mental disorder strictly analogous with the psychological disease it sometimes causes. Therefore, we regard it as a matter of first importance for social and international living that educators should be more concerned with the child, and the healthy development of his body and mind, than with the contents of the various subjects which go to make a school curricula."
- **Research in international concepts and attitudes:** Investigations can be done by teachers for finding methods where improved concepts and attitudes in the field of international understanding may be developed. At an early stage in the course, the staff should try to learn the attitudes of the students towards other races and cultures in order to determine for each student the extent of training needed for international understanding.
- **Visits to other lands:** Staff members should be encouraged, by leave of absence, financial aid, and by other means, to study and travel in other countries, and the exchange of staff members should be arranged as frequently as possible.
- **Faith and enthusiasm for the value of international understanding:** Teachers should have faith and enthusiasm for the value of international understanding and cooperation and should possess the right equipments to infuse this spirit in the minds of their students.
- **Interpretation of the value of international understanding in the curriculum:** While teaching various subjects, teachers should concentrate on helping students build proper behavior patterns and psychological dispositions, impressing upon their minds that barriers of race, colors and distance do not stand in the way of uniting people of different countries.
- **Objective and impartial in their treatment:** They should avoid indoctrinating the mind of the pupils. They should be impartial and highly objective in interpreting or describing facts and should not be propagandists. They must impress upon the students that there is no special merit or value in being born in one part of the world or another.
- **Well-informed about world situations:** They should be well-informed about the contemporary world scenario and its historical background, and be concerned about improving the conditions of people everywhere.
- **Organization of activities in the school:** They should organize the following types of activities in the school for developing an international outlook in the students:
  (i) Organization of UN societies and international clubs.
  (ii) Celebration of social days for heroes of peace and great men of all nations.
  (iii) Showing dramas depicting the horrors of war.
  (iv) Encouraging students to collect stamps and develop pen friendships between children of different countries.
  (v) Organizing debates, lectures and discussions on the United Nations Organization.

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Role of Education in International Understanding

The signatories of the United Nations Charter have pledged to live together in peace with one another as good neighbors, to take effective measures for the removal of areas of differences and to develop friendly relation among nations. It is understood that these ends cannot be achieved without education. This point is explained in the Universal Declaration of Human Rights, in which it is declared that:

> 'Education shall promote understanding, tolerance and friendship among all nations, racial or religious groups and shall further the activities of the United Nations in the maintenance of peace.'

One of the Resolutions of UNESCO reads as follows:

> 'Member States of UNESCO in accepting its constitution have agreed that the purpose of the Organization is to contribute to peace and security by promoting collaboration among the nations through education, science and culture in order to promote universal respect for justice, for the rule of law, for the human rights and fundamental freedom.'

Functions and Implications of the Programmes for International Understanding

School programmes for international understanding should enable an individual:

- To know and understand how people of other lands live.
- To recognize the common humanity which underlines all differences in various cultures.
- To work for a fair and just cause.
- To maintain an active interest in world affairs.
- To recognize the importance of solving world problems according to democratic practices.
- To appreciate the contribution of all people to the world citizenship.
- To combine love of one's country with a broad social consciousness towards an inter-dependent community of nations.
- To understand the economic, cultural and similar factors which make the world an inter-dependent community of nations.
- To respect the dignity and worth of man by giving him equality of rights and opportunities.
- To realize that truth always triumphs and leads to human progress and prosperity.
- To believe in common values and goals for the world community.
- To understand that victories of peace are greater than the victories of war.

UNESCO is one of the specialized agencies of the United Nations. Its operation and structure are determined by its Constitution, which was drawn by the members of the London Conference in 1945.

Role of UNESCO in Education and International Understanding

Article 1 of UNESCO's constitution states–

> 'The purpose of the organization is to contribute to peace and security by promoting collaboration among the nations through education, science and culture in order to further universal respect for justice, for the rule of law and for

human rights and fundamental freedoms which are affirmed for the people of the world, without distinction of race, sex, language or religion, by the charter of the United Nations.'

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To achieve this broad aim, three main fields of work are prescribed. The first is to collaborate the work of advancing mutual knowledge and understanding of people through all means of mass communication and to work towards the promotion of the free flow of ideas by word and image. The second is to give fresh impulse to popular education and to the spread of culture. Finally, UNESCO has to maintain, increase and diffuse knowledge by various means, including the conservation of world inheritance of learning and culture as well as the encouragement of cooperation between countries in all branches of intellectual activity.

These objectives are confirmed in the Universal Declaration of Human Rights adopted by the General Assembly in 1948. Article 26 of the Declaration proclaims that 'everyone has the right to education' and that 'education shall be directed towards the full development of the human personality and to the strengthening of respect of human rights and fundamental freedoms.' Article 27 continues by declaring that 'Everyone has the right to freely participate in the cultural life of the community, to enjoy the arts and to share scientific advancement and its benefits.'

National Commissions

The importance of individual in the kind of the work undertaken by UNESCO was recognized in the Constitution. To make participation by the individual and by private bodies more direct, the constitution provides for the formation of national cooperation bodies, or National Commission, to integrate the individual work in member states with the work of the organization. Most member states have set up such commissions. They are representatives of their respective governments and of the principal national bodies interested in the work of educational, scientific or cultural nature. These commissions function as liaison agencies and sources of information in their own countries.

Programmes of UNESCO

UNESCO strives for world peace by taking the following steps:

- International exchange of teachers and students in order to remove racial prejudices.
- The organization of International Camps where students of different nations will meet each other and exchange their views.
- Organizing tours of foreign countries to bring about mutual understanding and goodwill.
- Organization of study circles for studying the needs of other nations.
- Writing of history books with an international outlook.
- Establishment of an International University to discuss common problems of all the nations.
- Reorganization of the press, radio and cinema for international welfare.
- The reduction of illiteracy, especially in backward countries.
- Translating literacy classics and significant contemporary works.
- Organizing art exhibitions.
- Expansion of libraries and museums.

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- Fostering international understanding through the improvement of curricula and experimental activities in teacher training institutions.

The UNESCO has been doing useful work to provide a proper environment for the success of UNO. Dr. Radhakrishnan has rightly stated, 'There is nothing national with regard to education. The different countries are provinces of a common republic of culture. There is no such thing as Proletarian Mathematics or Nazi Chemistry or Jewish Physics. Culture is international and science is cosmopolitan in its essence and reality.'

Indian National Commission for Co-operation with UNESCO Genesis

An Interim Indian National Commission for Cooperation with UNESCO was set up in 1949 by the Ministry of Education, Government of India. The Interim Commission was placed on permanent footing in 1951 in order to ensure better implementation of UNESCO's programmes in the country. The constitution of the Indian National Commission was revised in 1969. The Commission has a four-year term and was last constituted in 1978.

Activities of the Commission

- Dissemination of information about UNESCO and other countries
- Celebration of UN Day, Human Rights Day, International Literacy Year, Centenaries, Book Years, etc.
- Exchange of persons
- Liaison with states and Universities
- Relations with other National Commissions
- Publications including 'UNESCO Courier'
- Associated school projects
- UNESCO International Coupon Scheme for assisting import of books
- Assisting Indian experts to find UNESCO jobs
- UNESCO Clubs

UNESCO associated school project

There are now over 1,200 schools and teacher training colleges in 81 countries which are participating in this programme. In 1953, India joined the programme starting with six institutions which later increased to three. These schools work on three main themes, which include:

(a) Teaching about the United Nations and its Specialized Agencies

(b) Teaching about human rights and fundamental freedom

(c) Teaching about other countries

UNESCO clubs

The Indian National Commission for UNESCO has been encouraging the establishment of UNESCO Clubs/Centres in different Universities, Public Libraries and other Educational Cultural Organizations in India to function as the main clearing house for disseminating information about the purpose and programme of UNESCO, enlist the support of individuals or groups interested in the fields of Education, Science, Cultural and Mass Communication, and to promote and popularize the work of UNESCO. At

present, there are about 300 UNESCO Centres functioning in India. Sponsoring and setting up of UNESCO Clubs/Centres is a significant step in the efforts of the Indian National Commission for UNESCO to obtain the support of maximum number of agencies for UNESCO Programmes.

The objective of the UNESCO is to cultivate the spirit of respect for justice, administration of law, and human and fundamental freedoms through education, science and culture. Thus, the UNESCO is contributing actively towards the cultivation of international understanding.

Education as the Only Effective Agency for Cultivation of International Understanding

If humanity, pride and fundamental rights of man have to be protected, justice and self-respect have to be realized in the international arena, the next generations have to be protected from the scourge of war, amiable relations have to be built among nations, and international peace and security have to be maintained, then the importance of international understanding will have to be accepted. For the cultivation of this international understanding, we have to accept the fact that all of us are citizens of the world and education is the only agency to realize this. We have to assume that the understanding cannot be achieved by any other agency. In this regard, Bertrand Russell has said that education may not be able to realize internationalism from a political viewpoint, but it is the only agency by which this spirit can possibly be realized.

According to the magazine *'Towards World Understanding'*, published by the UNESCO–

> "Schools may, and generally do represent the best elements in the surrounding culture. They should be and they generally are, above the average level of the community in their regard for truth and honesty and fair dealing. They contrive to raise appreciably the standards and values of people."

A plan will have to be devised for the cultivation of international understanding by education. In order to achieve this, the aims of education, curriculum, methods of teaching and textbooks will have to be reconstructed.

International Understanding and Aims of Education

The aims of education in order to cultivate international understanding are:

- Aims determined by UNESCO
- General aims

1. Aims determined by UNESCO

- The spirit of respect for other countries' culture and civilization should be cultivated in students.
- They should be trained to co-exist.
- They should be prepared to take active part in social construction.
- They should be motivated to take active part in social welfare projects.
- They should be acquainted with the lifestyle and customs of all people of the world.
- They should be trained to critically observe the behavior of people from various places.

- They should be motivated to accept the people of all nationalities and cultures as equal.

2. General Aims

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- The spirit of world citizenship is cultivated in children.
- They should be acquainted with the global problems.
- They should be educated to have faith in the aims of constructing the world community and its values.
- They should be acquainted with the achievements of different countries in different fields (economic, cultural, political, etc.).
- They should be given an opportunity to develop free thinking, independent decision-making, speech-making and writing skills.
- The feeling for extremist nationalism should be eradicated.
- They should be motivated towards cultivating collective traits.

International Understanding and Curriculum

There is a need to bring about change in the school subjects being taught under the curriculum. This change or amendment should be in keeping with international understanding. We are aware that the subjects taught to the students have been constructed from a national viewpoint and internationalism has been neglected. Now, there is a need to teach them those subjects with an international viewpoint in such a manner that the national interests are not neglected. Some suggestions regarding change and amendment in the subjects of the curriculum are as follows:

- **Comparative study of religions:** The comparative study of religions should be introduced in the curriculum as an important subject. There are many religions in the world and the numbers of people following these religions are quite large. It would not be out of place to say that many misconceptions and illusions exist about different religions. Its chief cause is that people are not aware of the principles of other religions. They do not know that all religions, despite their external diversity, are one in essence. We will have to acquaint our students with this internal unity of different religions by comparative study. Only then will the students be able to know the real form of religion. Besides, religious education is needed because religion has the ability to incline the human mind to other ideals unlike any other subject. Therefore, religious education can be made an important tool of world peace.
- **Language and literature:** Language and literature can effectively be used to cultivate the spirit of international understanding. There should be an arrangement for the study of different languages in schools so that the students who desire to learn them can do so easily. They should be educated about the great laureates of the world. Poetry, drama, story and novel should be used to cultivate the spirit of love for humanity. They should be told that it is their duty to have compassion for the entire human race.
- **History:** It would not be improper to say that the history we have taught our students has only polluted their minds. Bertrand Russell is absolutely right when he says that every country has described itself to be very superior in the description of its history. Children have been taught that their country is always right and has

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always been victorious. They portray that all great and famous personalities have been associated with their countries and that they are the best compared to all other nations of the world. Thus, we have used history to fill untrue thoughts in the minds of our students. The civilization that we can see today is not the outcome of the great people of any one country; rather, it is the outcome of the collective and joint efforts of people from different countries. Therefore, we will have to study history from the viewpoint of internationalism and will have to teach our students that all nations of the world are important and contribute to the enhancement of our civilization. Such great people have taken birth in all countries of the world, and our world has become great only due to their contribution.

- **Geography:** Geography can teach students that there can be several races in the world due to geographical elements, but there are some powers which are leading them to unity. Geography can help students understand that different countries of the world cannot survive alone as they are mutually interdependent. For example, the grain produced in one country is exported to another country at the time of need. If this does not happen, the people there can starve.
- **Social studies:** This is an important subject which should be started in all schools. The study of social studies can be more effective in cultivating international understanding as compared to history and geography. Through its study, we can present problems before people and devise their solutions.
- **Civics and political science:** Civics can be used to prepare students for world citizenship. The rights and duties should not be restricted within the four walls of a nation; rather, its scope should be extended to the whole world. Students should be acquainted with international politics, international economy and international morality.
- **Science:** There is a need to inform students that scientific inventions like airplanes, radio, television and telephones have turned the world into a global village and has reduced distances, which required active cooperation from the people of the world. Students should be told about great scientists and their inventions. They should be informed that scientists have not only invented for the betterment of their respective countries; they have done it for the entire humanity. Students should be made aware that the sense of secrecy and unhealthy competition found in different nations of the world is harmful for humanity and should be eliminated. Science should be used for the development of the world and not for the purpose of destruction.
- **Art and music:** Art and music manifests the unity of human thoughts and feelings. These can be used to create aesthetics in students in order to sublimate their feelings. They should be told that art and music are not restricted by national boundaries and are not related to any specific country, but the whole world. International understanding can be cultivated easily by different arts and music. Students should be introduced to great artists, singers and musicians of the world.

International Understanding and Co-curricular Activities

Co-curricular activities can prove to be very helpful in the cultivation of international understanding. Therefore, the following co-curricular activities should be organized for this purpose:

- **International days:** Important international days should be observed in schools, such as the UN Day, Human Rights Day, World Environment Day, International

Literacy Day, World Handicapped Day, International Women's Day, World Health Day, etc.

- **Birth anniversaries of great people:** The anniversaries of great people of the world should be observed in schools, such as Rama, Krishna, Mohammad, Buddha, Guru Nanak, etc., and their ideals and human values should be introduced to them.
- **Talks and lectures:** Scholars who have toured the world, have lived in other countries for a long time or are well acquainted with the world should be invited to schools from time to time to deliver lectures.
- **Competitions:** Competitions such as debates, letter writing, essay writing, poetry, general knowledge, etc. should be held from time to time on topics and problems of international importance. It would acquaint students with international problems and they will take an active in them.
- **Drama and cultural programmes:** Dramas and cultural programmes, depicting the lifestyle, dresses and cultures of people living in different parts of the world should be held at schools, introducing them to other varied cultures all over the world.
- **School magazine:** The school magazine can be used for cultivating international understanding in students. Matters relating to cultures, civilizations and political, economic, social and geographical conditions of different countries should be compiled in the magazine so that children can develop the spirit of love for humanity.
- **Exhibitions:** Exhibitions should be held in schools from time to time through which the students can gain knowledge about the culture, civilization, industries, artifacts, coins, stamps, products, lifestyle, dresses, ornaments, scientific inventions and famous books of other countries.
- **Morning assembly:** In the morning assembly held at the commencement of school, a teacher or student should deliver a lecture on a topic of international importance, like an international event or news. The need for international understanding should be stressed upon in this assembly.
- **Pen-friendship:** Students should be encouraged to form pen-friendships with students of other countries. It would give them an opportunity to come closer to people of other countries and develop an emotional attachment with them.
- **International games:** Games should be held at international level for cultivation of international understanding. It raises the standard and enhances a student's interest in games, at the same time enhancing the attitude of healthy competition and sportsmanship, along with creating an environment of international cooperation and goodwill.
- **Books, newspapers and magazines:** Books, newspapers and magazines should be provided in the schools, giving correct and unprejudiced information of the international world, to impart right, unbiased and sufficient information to students in order to develop a proper attitude, since their prejudices cannot be eradicated in the absence of correct information.

  Prejudices cause offensive behaviour in students. Therefore, students should be encouraged to read small books published by the UNESCO, which introduces them to the lifestyle in different countries.

- **Radio and television:** Radio and television should broadcast discussions, lectures, seminars, dramas, poetry, arts, lifestyle manners, natural situations, games, tourist spots, etc., cultivating an interest in students.
- **Assistance to people suffering from natural calamities:** People suffer from different natural calamities, such as earthquakes, famines, floods, etc. Students should be encouraged to collect money and other articles to help these people. This would cultivate the spirit of world brotherhood in them.
- **International clubs:** The UNESCO Club and friendship clubs of different countries can be established, like the India-Nepal Club, India-Sri Lanka Club, India-America Friendship Club, etc., in order to cultivate international understanding. These can be used to gain more knowledge about other countries.
- **Face-to-face contact:** Direct contact is a very important tool to cultivate international understanding. It has been proven by psychological and social researches that when different people come into contact with each other, they work for the attainment of common goals and close relations are developed among them. It also eradicates false propaganda and rigid principles of the people. Different resources can be used for increasing this type of contact among different nations, some of which are as follows:
- **Exchange of teachers and students at international level:** An important measure to establish direct contact among different nations is the exchange of teachers and students. When teachers and students of one country visit another, they exchange their cultures and knowledge. These teachers and students will act as the representatives of their respective countries.
- **International camps:** International camps should be held for the cultivation of international understanding, where students and teachers of different countries live and work together. These international camps can help break away cultural and political differences.
- **Study tours:** Study tours are very important in order to establish direct contact among people. Under this project, the teachers and students of one country visit another and establish personal contact with the people, exchange their views with them, observe their educational institutions, and study the educational system and educational problems, which helps in the cultivation of international understanding.

International Understanding and Methods of Teaching

It would be useful to apply the following methods of teaching in order to cultivate international understanding and achieve the specified educational goals:

- **Story telling method:** Interest for the international world can be created in students by telling stories from different countries. This method should be used at the primary level.
- **Project method:** The project method is used to encourage thinking and working in cooperation. Through this method, students can be encouraged to work on projects relating to the lifestyle and other aspects of life of people from different countries.
- **Lecture method:** This method is used to explain a topic. A well-prepared lecture is helpful to motivate students and develop their logic. A teacher can use this method to acquaint students with the international world.

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- **Discussion method:** In this method, a student takes active part in the learning process. A teacher can use this method to cultivate students' interest in topics of international importance.
- **Self-study method:** This method is quite useful at the higher level. Therefore, students' interest should be cultivated in topics and problems of international importance in order to motivate them for self-study.

The UNESCO is an important institution of the United Nations. The objective of this institution is to cultivate the spirit of cooperation among different nations of the world through education, science and culture. This institution is making efforts to prevent wars by change of hearts. This institution works to eradicate hatred, enmity and narrowness in order to create international cooperation, love and trust.

The UNESCO programmes have been divided into eight parts:

- **Education:** This is the chief function of the UNESCO. With the expansion and progress of education, it also educates students on how to live in the world community. The technique it has applied in the field of education is called original education. In this technique, provision is made for educating the illiterates as well as education for preservation of health, agriculture and home science.
- **Natural science:** It acquaints people with the knowledge accruing from different experiences and researches. It develops desert research centres and assists in their expansion. It provides all possible assistance in imparting science education.
- **Social science:** In order to eradicate international tensions and ill-feelings, it holds seminars and conferences and undertakes research on problems related to social science.
- **Cultural work:** It publishes different types of literature for cultural development of individuals and arranges musicals, theatre performances, etc.
- **Exchange of scholars:** In this technique, different international seminars are held in which the scholars of one country are sent to another so that their knowledge can be utilized.
- **Collective education:** The aim of UNESCO is to work for collective education and its expansion. Education is imparted through films, radio, newspapers and periodicals.
- **Rehabilitation:** This organization assists in rehabilitating refugees of different countries.
- **Legal assistance:** Under this programme, this institution provides adequate advice to different countries on different issues.

The goals and functions of the UNESCO are quite advanced and centred on humanity. The world can never hope for peace only through politicians. History is witness that preparations for war have been made in the name of peace. It is necessary that a change of heart takes place for eradication of wars and permanent peace. The spirit of world citizenship should be cultivated in place of narrow nationalism. Selfish interests can be eradicated by education along with the emotions of jealousy, hatred, enmity, competition and violence. There is a need to implement those principles which have been propounded for international cooperation and goodwill for achieving world peace.

Check Your Progress

7. List the various obstructions or barriers in the way of international understanding.
8. Name the voluntary organizations that help in organizing exchange programmes for teachers.
9. Name the projects that may be explored for the purpose of international exchange of students.
10. List the types of activities that should be organized by teachers to develop an international outlook in students.

SUMMARY

NOTES

- Modernization refers to the changes in material elements and also the belief of the people, their values and way of life as a whole. The process of modernization aims at bringing about desirable changes in the social structure, values and the social norms.
- Due to the rapid change, the centres of leaning should be alert in order to keep abreast of significant changes that are taking place in the society. There is a need for adopting a dynamic policy in the field of education. The system of education which does not take into account this aspect, becomes out-of-date and out-of tune and stands in the way of development, both in quality and quantity.
- The spirit of love, cooperation and friendship among all nations of the world and their people is called international understanding. International understanding is a synonym for world brotherhood or world citizenship. International understanding is opposed to extremist nationalism. This spirit expands an individual's outlook. It cultivates the spirit of 'live and let live'. Its main objective is the welfare of the human race.
- Teaching for world understanding should pervade the whole educational programme, which includes the attitudes of the staff members, curricular and co-curricular activities, and experiences of the school. We have to fashion and plan our teaching and learning process in such a way that children can grow with a sense of world-mindedness.
- Social changes are the changes that occur in various components of socialization discussed above for whatever reasons and circumstances. We have also observed that social change is the most operative aspect of the society.
- Several efforts have been made since ancient times to establish peace and cooperation in the world. Indians have been educated in the concept of *Vasudhaiva Kutumbakam* or world brotherhood, which means accepting the whole world as your own family.
- There are various obstructions and barriers in the way of international understanding, which include physical barriers, political barriers, economic barriers, religious barriers, linguistic barriers, psychological barriers and educational barriers.
- To make the society worth living, education and society should be closely associated with each other. They should depend on each other for their growth and development. If we neglect this contact, education would remain ineffective and artificial and cannot be used as an instrument of social progress.
- Teaching for world understanding should pervade the whole educational programme, which includes the attitudes of the staff members, curricular and co-curricular activities, and experiences of the school. We have to fashion and plan our teaching and learning process in such a way that children can grow with a sense of world-mindedness.
- Different kinds of exchanges between schools in India and other countries could be profitably undertaken as an aid to promote international understanding.

- The Indian National Commission and the Ministry of Education should expand the programmes of awarding fellowships to Indian teachers, enabling them to study and work in schools in other countries.
- UNESCO is one of the specialized agencies of the United Nations. Its operation and structure are determined by its Constitution, which was drawn by the members of the London Conference in 1945.
- UNESCO has to maintain, increase and diffuse knowledge by various means, including the conservation of world inheritance of learning and culture as well as the encouragement of cooperation between countries in all branches of intellectual activity.
- For the cultivation of this international understanding, we have to accept the fact that all of us are citizens of the world and education is the only agency to realize this. We have to assume that the manner in which our schools can help in the cultivation of international understanding cannot be achieved by any other agency.
- There is a need to bring about change in the school subjects being taught under the curriculum. This change or amendment should be in keeping with international understanding. The subjects taught to students have been constructed from a national viewpoint and internationalism has been neglected.
- Co-curricular activities can prove to be very helpful in the cultivation of international understanding.

KEY TERMS

- **Social changes**: These are the changes that occur in various components of socialization for circumstantial and fundamental reasons and circumstances.
- **Internationalism:** Internationalism is a feeling that the individual is not only a member of his own state, but a citizen of the world.
- **Modernization**: It is a process of change from traditional and quasi-traditional order to certain desired types of technology.

ANSWERS TO 'CHECK YOUR PROGRESS'

1. Modernization refers to the changes in material elements and also the belief of the people, their values and way of life as a whole. The process of modernization aims at bringing about desirable changes in the social structure, values and the social norms.
2. Education in a modern society is no longer concerned mainly with the imparting of knowledge and the preparation of a finished product, but with the awakening of curiosity, the development of proper interest, attitudes and values and the building up of such essential skills as independent study and capacity to think and judge for ourselves, without which it is not possible to become a responsible member of a democratic society.
3. The Food Corporation was set up to procure food grains from surplus production areas and distribute it in the areas with shortages.

4. In 1948, AICTE was constituted by the Government of India as an advisory body for all matters associated with technical education
5. National integration is the awareness of a common identity amongst the citizens of a country. It means that though we belong to different castes, religions and regions and speak different languages we recognize the fact that we are all one.
6. Some of the ways that would help in national integration are:
   - Celebration of national days
   - Celebration of birthday's of great men
   - Celebrating cultural festivals
   - Celebration of festivals
7. The various obstructions or barriers in the way of international understanding are as follows:
   - Physical barriers
   - Political barriers
   - Economic barriers
   - Religious barriers
   - Linguistic barriers
   - Psychological barriers
   - Educational barriers
8. The voluntary organizations that help in organizing exchange programmes for teachers are the New Education Fellowship, Rotary Club, Lions Club, Experiment in International Living, World Confederation of Organizations of Teaching Profession, Indian Council for Cultural Relations, etc.
9. The projects that may be explored for the purpose of international exchange of students are the Scout Jamborees and the International Voluntary Work Camp Movement.
10. The types of activities that should be organized by teachers to develop an international outlook in students are:
    (i) Organization of UN societies and international clubs
    (ii) Celebration of social days for heroes of peace and great men of all nations
    (iii) Showing dramas depicting the horrors of war
    (iv) Encouraging students to collect stamps and develop pen friendships between children of different countries
    (v) Organizing debates, lectures and discussions on the United Nations Organization

QUESTIONS AND EXERCISES

Short-Answer Questions

1. What is modernization?
2. How has modernization helped in educational progress?

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3. What is national integration? State some activities that would help in national integration.
4. How has agriculture improved due to education?
5. What is the objective of the UNESCO?
6. Which methods of teaching help in cultivating international understanding and achieve the specified educational goals?
7. How can teachers contribute towards international understanding?
8. What is the meaning of international understanding?

Long-Answer Questions

1. Modernization refers to the changes in material elements and also the belief of the people, their values and way of life as a whole. Explain.
2. Discuss the concept of internationalism in Indian education.
3. Write a note on the agricultural and technological changes in India since Independence.
4. Explain the different methods for creating world understanding.
5. Discuss the importance of exchange programmes between institutions within India and other countries for promoting international understanding.
6. Discuss the role of education in international understanding.

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