



## Department of Distance Education Punjabi University, Patiala

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**Class : M.A. I (Education) Semester : 2**  
**Paper : II (Psychological Characteristics and Abilities) Unit : I**  
**Medium : English**

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### ***Lesson No.***

- 1.1 : Educational Psychology : Relevance for Teaching
- 1.2 : Role of Heridity and Environment
- 1.3 : Motivation : Concept, Types & Techniques
- 1.4 : Approaches to Motivation
- 1.5 : Individual Differences

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***Department website : [www.pbidde.org](http://www.pbidde.org)***

**Structure**

- 1.1.1 Introduction
- 1.1.2 Objectives
- 1.1.3 Concept of Educational Psychology
- 1.1.4 Relevance of Educational Psychology for Teaching
- 1.1.5 Identification of the learner
- 1.1.6 Summary
- 1.1.7 Key Concepts
- 1.1.8 Suggested readings and web sources
- 1.1.9 Self check exercise

**1.1.1 Introduction**

*Educational Psychology can be understood as a science which studies the process and actions involved in the education of human beings. It is a systematic study of the changes that occurs in an individual at various stages of his development. It highlights the conditions that promote or retard educational development of the learner. The principles of the educational psychology are utilized to improve the teaching learning process. They prove equally useful in the organizations and administrative wings of educational institutions.*

**1.1.2 Objectives**

After going through this lesson you will be able to:

1. Discuss the concept of educational psychology.
2. Understand the relevance of educational psychology for teachers.
3. Understand the importance of Psychology in Identification of learner.

### **1.1.3 Concept of Educational Psychology**

To understand fully the concept and scope of educational psychology, we must have a general view of these two fields i.e. Education and Psychology and their interdependence. The modern concept of education is an outgrowth of continuous research concerning human development and behaviour.

Educational psychology represents the application of scientifically derived principles of human reactions and actions that affect teaching learning process. The primary function of education is to make provision for situational stimulation where by inherent potentialities express themselves in the form of appropriate skills, knowledge and attitudes.

Education as a process refers to the continuous experiences which help in the development of innate abilities. The products of education are changes that result from participation in teaching-learning experience.

Education and Psychology exist on an inter-dependent plans as the former suggests :‘what’ to study and later ‘how’ to study.

Psychology may be defined in its simple form as the science of the behaviour. It uses scientific methods to collect data about human behaviour under controlled conditions and to formulate hypotheses or generalizations. It helps us to understand, control and predict behaviour. Educational Psychology, however, is a study of human behaviour as it bears upon learning and teaching activities. It is an application of principles of general psychology to the problems of education.

According to Judd, “Educational psychology is a scientific study of the life and stages in the development of an individual from the time he is born until he becomes an adult”.

According to Skinner, “Educational psychology is that branch of psychology which deals with teaching and learning”.

Anderson assumes that Educational psychology is a subject to be studied as an area or a field of knowledge, a set of applications of

laws and principles from a field of knowledge to a social process, a set of tools and techniques and a field for research.

According to Garrison, "It is concerned with the study of human behaviour as it is changed or directed under the social process of education, and secondly it studies the processes that contribute to an increased understanding of how behaviour is changed and directed through education".

These definitions imply that Educational psychology takes its form and gets its meaning from two fields, i.e. Education and Psychology. Education is a social process and psychology is a discipline, a body of knowledge, a social and natural science.

Education as a social process is concerned with the establishments of certain behaviour patterns in people in order that they can adapt to a given environment or in order that they may perform certain ways so that the adaptation of other people is enhanced. Teachers by virtue of training have a special skill in helping others to learn. The teachers task can be described under three broad categories.

- (i) Selecting and organizing material.
- (ii) guiding and directing learning.
- (iii) evaluation.

The teacher actually helps the learners to change their behaviour in specified and desirable direction. Two basic factors involved in this statement need to be mentioned here.

- (i) a process (behaviour change) and
- (ii) a criterion (specified desirable direction).

Suppose that the teacher has clearly specified the "desirable behaviour change" now his focal task is to interact with his pupils and to arrange the conditions and materials in such a way that the pupils will change. The teacher, therefore, must be an active continuous inquirer into validity of his own procedures.

Educational Psychology is concerned not only with constructive and validation from time to time of good teaching procedures but also with

evaluation of the effect of teaching in an objective manner. It explore psychology of the child, his modes or responses, his hereditary nature and the impact of all these on learning mass and his development.

It is an area of application rather than unique category of subject matter. It encompasses the subject matter, research and procedures of psychology as related with problems of classroom. It also attempts to define and explain changes that take place in an individual at various stages of development. It deals with the conditions that enhance or deteriorate human development. Its study results into formulation of certain principles which are considered worthy in directing and fostering school programmes on humanistic lines.

Kelley analyses the task of educational psychology as follows :

- to give the knowledge of the nature of the child.
- to give understanding of the nature, aims and purposes of education.
- to foster understanding of scientific methods and procedures.
- to utilize principles and techniques of learning and teaching.
- to give training in methodology of measuring abilities and achievements.
- to understand growth and development patterns of children.
- to help children in better adjustment.
- to help children in attaining emotional control.

According to Dewis, contribution of educational psychology is as follows :

“Psychology has made a distinct contribution to education through its analysis of pupil’s potentialities as differences as revealed by means of various type of psychological tests. It has also contributed directly to the knowledge of pupil’s growth and maturation during the school years.”

Blair stresses the importance of educational psychology as “Modern teacher if he is sincere with his work, should be a specialist who understands children how they grow, develop, learn and adjust. He

should be a diagnostician who can discover, special difficulties of children and at the same time possesses the requisite skills for carrying forward the necessary remedial work. He should also be performing featuring in educational and vocational guidance. An untrained person in the methods of psychology cannot possibly fulfil the obligations and tasks which are the responsibilities of the teacher.”

#### **1.1.4 Relevance of Educational Psychology for teaching :**

The work of the teacher is like that of a gardner to a great extent. The gardner needs the knowledge of the plant life. The teacher also needs the knowledge of the learner.

There is another reason why the knowledge of psychology is helpful to the teacher. A good teacher should not only be the master of the subject-matter that he is to teach, but he should have also thorough knowledge of the pupils he is to teach. This means the knowledge of the needs, abilities and aspirations of the child is as much important to the teacher as is the knowledge of the subject-matter. The knowledge of the child is given to the teacher by psychology. Because the teacher must know his pupils, he must study educational psychology.

Psychology also helps the teacher in the realisation of educational aims. The teacher has to clearly set the goals or specify the "desirable behavioural changes," that he wants to bring among his students and next task is to attain those goals. For this, educational psychology helps him in such a way that with the conditions and materials that the desirable behaviour changes are actually brought about and thus goals attained.

Educational psychology, in fact, helps us to know that it is best to set attainable objectives of education, and also whether a particular objective is attainable or not. From what has been said, it is obvious that the contribution of educational psychology to the theory and practice of education is rich and varied. The knowledge of educational psychology helps the teacher in a number of ways, some of which are:

- 1. To understand the developmental stages :** Study of educational psychology helps the teachers in understanding the development and characteristics of children. He can utilise this knowledge in imparting instructions and moulding pupils behaviour along desirable lines.

2. **To understand the Teaching-Learning Process :** The knowledge of educational psychology acquaints the teacher with the learning process in general and problems of classroom learning in particular. It equips the teacher with the knowledge of principles of learning, the problems of learning and their remedial measures, it helps the teacher to instruct effectively in the class.
3. **To understand the Individual Differences :** The knowledge of educational psychology helps the the teacher in understanding individual differences. No two individuals are alike. The teacher faces a class in which pupils differ from one another in their abilities, interests, attitudes and personality. The teacher who has the knowledge of the kind of individual differences can adjust his teaching to the needs of different students.
4. **To understand effective teaching Methods :** Educational psychology gives teacher the knowledge of appropriate methods of teaching. It gives him knowledge of the different approaches involved in tackling the problems of teaching at different age levels.
5. **To understand problems of children :** By studying educational psychology, a teacher can understand the cause of the problems of children that they face at different age levels. This knowledge can be helpful to him in preventing mal-adjustment among children.
6. **Knowledge of Mental Health :** From the study fo educational psychology, the teacher can know the various factors associated with mal-adjustment and mental ill-health. This knowledge can also be helpful to him in preventing mal-adjustment among children.
7. **Measurement of Learning Outcomes :** Psychological tests and tools helps the teacher in measuring the learning outcomes of the instructions imparted by him. The knowledge of educational psychology also helps him in developing his own tools and tests for measurement of pupil's achievements in different school subjects.
8. **To Understand Exceptional Children :** Educational psychology enables the teacher to better understand the exceptional children and make provision for their education.

9. **To Understand Group Dynamics** : The knowledge of educational psychology helps the teacher in understanding group dynamics in classroom situation and its effect on learning.
10. **Curriculum Construction** : The knowledge of educational psychology has convinced the curriculum framers that a good curriculum must be based on psychological principles. In other words, It must keep into consideration the physiological and psychological needs of the learners. Psychology has emphasised the role of co-curricular activities in the school. These activities are considered important media for sublimation of instincts and emotions and for the development of personality. That is why, it is now increasingly recognised that the curriculum should be integrated, flexible, correlated and child-centered.
11. **Effective Use of Audio-Visual Aids** : It is the contribution educational psychology that teacher now make use of various types of audio-visual aids in classroom teaching. It has been experimentally proved that use of audio-visual aids makes learning easy, interesting and effective.
12. **Research** : Educational psychology can help the teachers in conducting reasearch, It has helped them in developing tools and devices that can be used for research. They can, thus involve themselves in various types of action research concerned with the students.
13. **To Develop Sympathetic Attitude** : Finally, educational psychology helps the teacher to improve his own mental health. A teacher must be sympathetic to his students. He should also be genuinely interested in the" teaching profession, and have balanced emotional life. An ill-adjusted teacher is cruse to the profession. Still many teachers are mentally unhealthy and maladjusted. Through the knowledge of psychology, they can know their shortcomings and weaknesses and thus, get insight into their behaviour. As a result of this they can adjust better.

#### 1.1.5 Identification of the Learner

1. **Individual difference** : By knowing the individual difference.
2. **Development Stages** : By Knowing the needs and problems of the different development stages of the child.
3. **Personality test** : Personality of the learner can be observed applying Inventory, Personality Inventory test, Rating Scales, Questionnaire method, Interviews and Projective techniques e.g. Rorschach, Inkblot test, TAT etc.

**4. Intelligence Test :** Test can be applied to measure the Intelligence of the child e.g. Mental ability test, Achievement test, Performance test.

**5. Aptitude test :** To know the aptitude of the learner.

### **1.1.6 Summary :**

So while summarizing we can say that the study of psychology helps to understand the nature of the child. Psychology helps to understand, control, direct and predict the behaviour of the child whereas education, helps to modify the behaviour of the child. Educational psychology helps to understand the different developmental characteristics and individual differences etc.

The main objective of educational psychology is to provide such principles to teachers which they may realize educational cultural and professional objectives. In spite of this it helps the teacher to understand his own job and develops in him a scientific attitude of problem solving related to the problems of education. It helps a teacher in adjustment of his personality. Different psychologists give their own view points regarding the scope of educational psychology. According to Garrison the scope of educational psychology includes (i) the child and his development, (ii) learning & educative process, (iii) Evaluating pupils growth and (iv) Guiding the child. According to Lindgren (i) Learner, (ii) Learning process and (iii) learning situation come under the scope of educational psychology.

### **1.1.7 Key Concepts :**

1. Universal - relating to everybody or everything of the whole universe.
2. Valid - based on good reason.
3. Evaluation- Making judgement or assessment.
4. Objective - real, having existence outside the mind, not influenced by personal feelings or opinions.
5. Research - Careful inquiry, investigation aimed at discovering new facts.

### **1.1.8 Suggested Readings and Web Sources :**

1. Mathur, S.S : Educational Psychology
2. Chauhan, S.S. : Advanced Educational Psychology
3. Sodhi, T.S., Suri, S.P. : Psychological foundations of Education

- 4. Bhatia, K.K. : Bases of Educational Psychology
- 5. Aggarwal, J.C. : Psychology of learning & development

**1.1.9 Self-Check Exercise :**

**Fill in the blanks:**

- 1. Psychology is the study of .....
- 2. The main objective of education is ..... of behaviour.
- 3. Education is ..... development of the child.
- 4. According to Lindgren ....., ..... and ..... come under the scope of educational psychology.
- 5. Principles of educational psychology are ..... and .....

**Answers :**

- (1) Behaviour (2) Modification (3) Around
- (4) Learner, Learning process & Learning situation (5) Universal, Valid

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**Lesson No. 1.2**

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**Role of Heredity and Environment**

1.2.0 Structure

1.2.1 Objectives

1.2.2 Introduction

1.2.3 Meaning of Heredity

1.2.4 Meaning of Environment

1.2.5 Role of Heredity and Environment

1.2.6 Educational Implications in classroom and Organizing Educational Programme

1.2.7 Summary

1.2.8 Suggested Questions

1.2.9 Suggested Books

**1.2.1 Objectives :**

After going through this lesson, students will be able to :

1. To know the meaning of Heredity and Environment
2. To describe the role of Heredity and Environment
3. To know the Educational implications of Heredity and Environment in classroom.

**1.2.2 Introduction :**

Why do we differ from each other in so many ways? What is it that is responsible for such differences and variations among us? Are these differences present in the individuals right from their birth or even at the time of conception, or do they creep in afterwards? Educationists, sociologists and psychologists have tried to seek answer to these questions through their studies and researches. They have in turn concluded that both the hereditary as well as environmental factors are

jointly responsible for differences and variations among us. How does it happen? In what ways do hereditary and environmental influences contribute towards such variations? To seek answer to such questions let us analyse in detail, the concepts 'heredity' and 'environment' along with their contributions singly or together for creating individual differences.

### **1.2.3 Meaning of Heredity :**

In the words of R.S. Woodworth (1945), "Heredity covers all the factors that are present in the individual when he begins life not at birth, but at the time of conception about nine months before birth."

O.B. Douglas and B.F. Holland (1947) define heredity as, "One's heredity consists of all the structures, physical characteristics, functions or capacities derived from parents, other ancestry or species."

Every child comes into this world with certain physical and mental characteristics which he got from his parents and ancestors.

He is born with a body and mind which developed from the fertilized ovum. His limbs and organs grow from the same. Some of his mental tendencies are also based on the same. This is all account of heredity.

It is seen that a cat gives birth to a kitten, a dog to a puppy and a human being to a human being. It is on account of this factor we say that the class of dogs will give birth to puppies or that like begets like. Still there we find a lot of variation among cats or dogs or human beings even if they are born of the same parents. Why does this happen! We shall make a brief study of this phenomenon.

### **1.2.4 Meaning of Environment :**

In a broad sense, environment means cultural, economic, intellectual, moral, physical, political, religious and social factors which influence the development of the individual. All these factors influence and mould the behaviour of a person from time to time. Two individuals born with the same biological heritage differ because of differing environments. Sometimes it is said that environment is nothing but a process under suitable conditions to change the shape of raw material just as a potter does while making toys of mud. But this analogy is not exactly applicable to a human being who is an animate one. He is not only influenced by the environment but also influences the environment. Environment includes the home, the neighbourhood, the peers, the school and a host

of other agencies. No individual is the same at maturity as he was born. The environment changed him. Every thing that influences the child apart from himself what he inherits from his parents and ancestors is his environment. In this context we may note the following definitions of environment.

O.B. Douglas and B.F. Holland (1947) define environment as “a word which describes, in the aggregate, all of the extrinsic (external) forces influences and conditions, which affect the life, nature, behaviour and the growth, development and maturation of living organisms.”

R.S. Woodworth and D.G. Marques (1948) state, “Environment covers all the outside factors that have acted on the individual since he began life.”

E.G. Boring, H.S. Longeld and H.P. Fed write, “The environment is everything that affects the individual except his genes.”

### **1.2.5 Role of Heredity and Environment :**

Hereditary factors begin their influence right from the time of conception of the child through the transmission of chromosomes and genes of its ancestral stock from its immediate parents. The role of these factors in providing uniqueness to the personality of the born child and in proving to be a significant factor in generating individual differences can be explained as follows :

**(i) Heredity determines the sex of the child :** As already understood, there exist 23 pairs of chromosomes in the sperm and the ovum. Out of these the first twenty-two pairs of chromosomes are called autosomes. The autosomes are responsible for deciding and determining the growth and development of most of the characteristics and structural composition of our body. The remaining twenty-third pair is the sex chromosome. Whether the baby to be born should be a boy or a girl and what sex-linked characteristics should it possess, are decided by the mechanism of sex chromosomes of the father and the mother.

**(ii) Heredity contributes significantly towards physical constitution :** Most of the attributes related to our body make-up, its constitution and functioning are well decided and guided by heredity. Some children have blue eyes, others have black or brown. Certainly, this difference is actually brought out by their genetic differences. Same is the case with the colour and texture of the skin and hair, height, facial outlook and appearances, blood types, finger prints etc.

Besides such differences in the physical constitution, structure and body make-up, hereditary factors are also said to be the sole cause for some diseases like tuberculosis, cancer, haemophilia, schizophrenia and other abnormalities. These diseases are the result of defect in genes and chromosome and are passed on to subsequent generations.

Sometimes the role of heredity as a determinant of physical constitution or bodily make-up becomes questionable, especially in situations in which the

- (a) parents are of black colour while the child is white;
- (b) parents are extraordinarily genius while the child is an idiot;
- (c) child does not inherit the blindness, lameness or mental disorder of his parents; and
- (d) child does not resemble any of his sisters or brothers.

**(iii) Contribution of heredity towards the birth of twins and the related individual differences :** Sometimes there are births of twins and multiples. Very often they are found to differ much from their siblings in many aspects. Not only are the twins found to differ from their counterparts in spite of their commonness in their hereditary stocks, but also they are different as individuals.

The information about twins and multiples helps us draw a conclusion about the role of hereditary factors in bringing individual differences as the following :

1. Twins are bound to differ from siblings as they are inherited from different sets of chromosomes and genes.
2. Fraternal twins differ from each other on account of the inheritance of different combination of genes and chromosomes.
3. As far as identical twins are concerned, they may exhibit too much of similarities and resemblances on account of their common heredity stocks. However, it is not essential for them to be quite identical. They may also exhibit their individualities, differences and variations in one way or other. These can be attributed to a great extent to the environmental influences after their conception or birth.

However, the role of heredity cannot be denied as in spite of being identical twins, they may receive at the time of conception somewhat a different type of composition of genes and chromosomes quite capable of creating differences in their genetic structure resulting in two different types of personalities.

Hereditary factors are transmitted to the offsprings at the time of their conception by the immediate parents, through their respective chromosomes and genes. In this way, actually the role of heredity ends with conception. What goes on inside the womb after conception are thus internal environmental influences. These forces play their role approximately for 9 months till the birth of the child and are in fact responsible in many ways for shaping the individual. In its true sense they differ not only from mother to mother but also from one child to another of the same mother.

#### **1.2.5.1 Environment :**

At the time of delivery also, the environment available to the mother and the child affects the well-being, growth and development of the child. Here, the individual differences may be caused by situations like premature or mature delivery, normal delivery or a caesarean delivery, hygienic or unhygienic conditions, and the general atmosphere at the time of delivery.

In every step and at all times, these external environmental influences available to each child are quite different in nature as well as in effect. One may argue that children of the same parents or members of the same family have the same environment. But this is never possible, no matter how hard one may try. Even a mother cannot claim paying equal attention, care and affection to all her children. While in most Indian homes male children get preferred treatment over female children, two even real brothers also may not be treated in the same way by their own parents. The same is also true in the case of students being taught by the same set of teachers in the same set-up. No teacher can provide exactly the same treatment to all of his students. Thus as reality speaks, all children cannot be brought up in the same home, cannot reside in the same neighbourhood, cannot get education in the same institution or get the same social, cultural, physical and psychological set up. Hence,

individuals are bound to differ significantly from each other in various ways.

While a bad company or a negative environment may turn an innocent child into a devil, a devil or dacoit like Balmiki may turn a saint with the help of a positive and a favourable environment. On this earth, there are positive and negative, favourable and unfavourable, healthy and unhealthy, proper and improper environmental conditions that can determine the directions of a child's future. These conditions create big variations and differences among children as they grow up. Within the society we can find that the privileged, rich, educated, genius, belonging to the urban belt, flourish, those belonging to the underprivileged suffer adversely in the cruel hands of unfavourable environmental forces. In this way, when in our society we cannot remove inequalities, disharmonies and differences, how can we expect the absence of variations or differences in the individualities of human beings. Since all these inequalities, disharmonies and differences, how can we expect the absence of variations or differences in the individualities of human beings. Since all these inequalities in any society are always the creation of the environmental forces, it can be safely concluded that environment plays a very significant role in creating individual differences.

### **1.2.6 Educational Implications of the Role of Heredity and Environment :**

The parents, the teachers and the community have to play a significant role in providing rich environment in all its facets. As teachers we have to have a greater faith in the forces of environment though the forces of heredity cannot be totally ignored. Education can eliminate those influences and circumstances which inhibit and stunt the full growth and development of inherited traits and capacities and encourage and provide for those which favour it. Scientific educational principles require that the inherited inclinations, capacities and interests of every child should be studied early and every facility should be provided in the environment to develop all that is best in him as an individual. Educational institutions should provide suitable opportunities for every individual to unfold his latent powers. A rich and fruitful environment must be provided to draw out the best in child and man-body, mind and

soul. Individual differences of children must be found out and necessary conditions created for their optimum development.

The picture of an ideal environment of a well-managed school for the optimum development of children has been very beautifully described by S. Balakrishna Joshi (1955) as “A school is not a mere brick and mortar structure housing a miscellany of pupils and teachers; a school is not a market place where a heterogeneous crowd gathers with diverse objects; a school is not a rigorous reformatory where juvenile suspects are kept under vigilant watch, a school is a spiritual organism with distinctive personality of its own; a school is a vibrant community centre, radiating life and energy all round; a school is a wonderful edifice, resting on the foundation of goodwill—goodwill of the public, goodwill of the parents; goodwill of the pupils. In a word, a well conducted school is a happy home, a sacred shrine, a social centre, a state in miniature and bewitching Brindavan, all beautifully blended into a synthetic structure.”

Emphasizing this need Crow and Crow (1973) write, “Since we supposedly are teaching individuals, not groups of individuals, it is the function of the school within its budgetary personnel and curricular limitations to provide adequate schooling for every learner no matter how much he differs from every other learner.”

How can we accomplish this task is a pertinent question to be asked at this stage. In fact, to provide adequate schooling or learning experience for every learner according to his individuality is not a simple task. However, the following suggestions can be helpful for any teacher:

**(i) Proper knowledge of the individual's potentialities :** The first step in making provisions for individual differences is to know the abilities, capacities, interests, aptitudes and other personality traits of individual pupils. For this purpose, frequent assessment in the form of intelligence tests, cumulative record card, interest inventories, attitude scales, aptitude tests and measures for assessing personality traits shall be carried out.

**(ii) Ability grouping :** In the light of the results derived from various tests of knowing individual differences in terms of individual potentialities in various dimensions, the students in a class or area of activity can be divided into homogenous groups. Such division can prove beneficial in adjusting the method of instruction to varying individual differences.

**(iii) Adjusting the curriculum :** To meet the requirement of varying individual differences among the pupils the curriculum should be as flexible and differentiated as possible. It should have the provision for a number of diversified courses and cocurricular experiences so that the pupils may get opportunity to study and work in the areas of their own interests and abilities. It should provide adjustment to suit the local requirements and potentialities of students of different groups.

**(iv) Adjusting the methods of teaching :** Considering the varying individual differences, adjustment with regard to the adaptation of methods of teaching is very effective. Every teacher should be somewhat free to formulate his own plan and strategy and adopt different instructional procedures which he finds most suited to different pupils. He should follow different procedures or methods of instruction to suit the requirements of varying ability groups of his pupils.

**(v) Adopting special programmes or methods for individualizing instruction :** Schools may also adopt some special programme or methods of teaching like Dalton plan, the Winnerkta plan, the project Method or use programmed learning material for enabling the students to learn at their own individual pace.

**(vi) Other measures of individualizing instruction :** For the purpose of individualizing instruction a few practical measures can also prove beneficial.

1. The student strength of the class or section should be made as small as possible.
2. The teacher should try to pay individual attention to the group under instruction.
3. The teacher should keep in view the individual difference of his students while engaging them in drill or practice work in the class-room or assigning home-task.
4. In case where ability grouping is not possible and more specifically under the prevalent system of class teaching, special coaching and guidance programme for both the dull and the gifted children are most helpful.

Thus, the problem of individual differences can be tackled with multidimensional tasks. The teacher, school authorities, the parents and

the Government as well as voluntary agencies—all should join hands to meet the individual requirements of children who possess tremendous individual differences.

### **1.2.7 Summary :**

Heredity and Environment contributes singly or together for creating individual differences. Heredity factors begin their influence right from time of conception of child through the transmission of chromosomes and genes of its ancestral stock from its immediate parents. Environment also affects the well being, growth and development of child. Education can eliminate those influences and circumstances which inhibit and stunt the full growth and development of inherited traits and capacities and encourage and provide for those which favour it. For the growth and development of child a teacher should provide proper knowledge of individual's potentialities, ability grouping, Adjustment of curriculum, adjusting the method of teaching, adopting special programmes or measures for individualised instruction.

### **1.2.8 Suggested Questions :**

- 1) What do you mean by Heredity ?
- 2) Define Environment ?
- 3) Discuss the role of Heredity and Environment.
- 4) Write about Educational Implications of Heredity and Environment in classroom.

### **1.2.9 Suggested Books and Web Sources :**

- Crow and Crow, *A Educational Psychology*, New Delhi.
- J.C. Aggarwal, *Essentials of Educational Psychology*, Vikas Publishing House Delhi.
- S.K. Mangal, *Advanced Educational Psychology*, Prentice, Hen of India, New Delhi.
- Stern, C; *Principles of Human Genetics*, San Francisco, W.H. Freeman & Co.

## **MOTIVATION : CONCEPT, TYPES, STRATEGIES**

### **Structure :**

**1.3.1 : Introduction**

**1.3.2 : Objectives**

**1.3.3 : Concept, Meaning and Definitions of Motivation**

**1.3.4 : Types of Motivation**

**1.3.5 : Motivational Strategies in the Class-room**

**1.3.6 : Summary**

**1.3.7 : Suggested questions**

**1.3.8 : Suggested readings & web sources**

### **1.3.1 Introduction**

The problem of motivation is the central issue in Psychology, which has been the subject of interest and inquiry for all those who dealt with human relations since the man was born on earth. Motivation may be regarded as something which prompts, stimulates; compels and energizes an individual to act or behave in a particular manner at a particular time for attaining some specific goal or purpose.

There are so many factors that promotes learning among students such as interest, need, desire, purpose, will, readiness, curiosity, goal, intelligence, good teaching techniques and motivation. But out of these factors motivation is the most important and strongest factor which facilitates learning.

Since motivation is the strongest factor of learning, it is also called 'heart of learning' or 'golden road to learning'. Motivation is the key factor which brings change in the behaviour of the human being. Motivation facilitates learning, so greater the motivation, the greater the learning and lesser the motivation, lesser

the learning. The teacher is daily faced with a variety of problems in his teaching learning situations.

### **1.3.2 Objectives**

After going through this lesson the students will be able to :

- Understand the meaning of motivation.
- Explain various characteristics of motivation.
- Describe various types of motivation.
- To know different strategies of motivation in the classroom.

### **1.3.3 Concept, Meaning & Definition of Motivation**

#### **• Concept & Meaning**

The word motivation is derived from the Latin word 'Moveers' which means to move. Motivation means movement in the person to make efforts to achieve his specified goal. Therefore, motivation is the process of arousing movement in the organism which force him to do some action and determine his behaviour or goal.

So basically motivation means to motivate a person or to make a person ready for learning. It is to create interest in the person to achieve his specified goal.

#### **• Definitions :**

Many psychologists have given different definitions of motivation :

According to Jones, Blair and Simpson, "Motivation is the process in which the learner's internal energies or needs are directed towards various goal objects in his environment".

According to Sorenson, "Motivation is a psychological condition that causes one to expand efforts to satisfy needs and wants".

In the words of Lowell : "Motivation may be defined as psychological or internal process initiated by some need, which leads to the activity, which will satisfy that need".

The above definitions reveal that motivation is the motivating force based on a need to do something to satisfy that need.

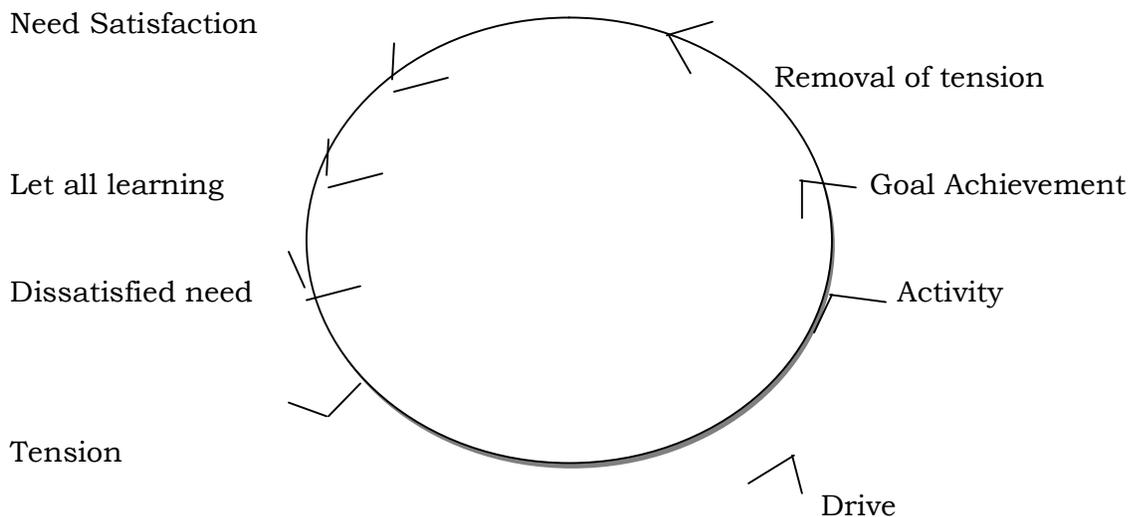
### **Characteristics of Motivated Behaviour**

- **Eagerness Means :** Readiness for the work to do, if the students are motivated, they will take interest.

- **Concentrated attention** : The students focus attention and do lot of efforts to achieve the goal.
- **Persistency** : When students are motivated they show persistency in work.
- **Energy Mobilization** : When the person is motivated his energy is mobilized.
- **Achievement of goal and reduction of tension** : Motivation helps in the realization of the goal. They feel satisfaction after achieving the goal.

### Activating Forces of Motivation

The Whole activity cycle can by shown as under : Dis-satisfied need creates tension:Tension produces movement of a drive to act.The Individual proceeds towards Goal Achievement.When goal is achieved tension is removed.



### An activity circle

What exactly is responsible for the motivation of an individual? What are the real activating forces that make the individual to move or act for achieving a specific goal? Psychologists have defined these activating forces as **Needs, Drives and Motives**.

**Needs:**

Needs are basic wants or desires. A human being has to strive for the satisfaction of his basic needs if he has to survive in the world.

- **Human needs can be divided into two broad Categories :**

- 1: Biological needs/Physiological needs.
- 2: Socio-Psychological needs.

- **1: Biological needs/Physiological needs :**

All our bodily or organic needs fall into three categories, i.e.:

- **First Category of our Biological needs include:**

Oxygen water and food are the most important need for our survival and existence. We can't even imagine our survival beyond a limited period if we are deprived of these basic needs.

- **Second Category of our biological needs include:**

- i. Rest when tired;
- ii. Action or work after rest;
- iii. Regular elimination of waste products from the body;
- iv. Regular body temperature;
- v. Sleep;
- vi. Protection from threat of physical environment such as natural disasters, natural calamities e.g. earthquake, Tsunami cyclones, flood etc.

- **Third Category of biological needs include:**

Sex Urge or desire to seek sex experience. It is not essential for the survival of an individual but it is the strongest human urge which satisfy his happy domestic life and the continuity and survival of human species.

- **2: Socio-Psychological needs:**

- I. **The need for freedom or gaining independence:** All human beings have an urge to remain free and independent.
- II. **The need for security :** We need desirable emotional, social & economic security for our wellbeing.

- III. The need for love & affection :** Every one of us irrespective of age, caste and colour has a strong desire to love and to be loved by others.
- IV. The need to achieve :** Every person has a strong desire to achieve some goals like money, fame, reputation, degree, merit, medals, a good spouse or partner and spiritual attainment etc. not only to raise his economic status than others but for his own satisfaction also.
- V. The need for recognition or social approval :** All of us have an inherent desire to gain recognition, appreciation by others, e.g. A singer may desire to be known for his singing art i.e. gaining the required social status.
- VI. The need for company:** Man is a social animal. He can't live alone. He doesn't want to be isolated, so he maintain social relations with the people.
- VII. The need for self-assertion :** All human beings have an inherent desire to dominate over others by showing age, power or status. This is also called the power motive which works as a strong determinant of one's personality and behaviour.
- VIII. The need for self-actualization or self-expression :** Every human being has a basic talent hidden in him and thus he wants his talent to be exhibited. In this way we want to get adequate opportunities for self-expression and self-actualization for developing our potentialities.

### **Drives :**

A need gives rise to a drive which can be said as aroused tension or force which makes a person to react or do some action to fulfil his goal. Therefore the existence of a need moves or drives the individual from within and directs his activities to a goal which satisfies his particular need.

Drives and Incentives: Drives are also influenced by incentives such as praise, rewards, appreciation, recognition, bonus, fulfilment of one's needs and achievement of the desired objectives.

A piece of incentive works as reinforcing agent as it adds more force to a drive e.g. candies, chocolates, toy, pencil, copies may act as an incentive for a child and as a result he may be further motivated to behave in a desirable way.

## Motives

A motive works as a basic activating force behind a particular behaviour. Motive may thus be considered to be an energetic force or tendency (learned or innate) working within the individual to compel or inspire him to act either for the satisfaction of his basic needs for the attainment of some specific purpose or goal.

### Here are some of the motives based on the basic human needs:

- i. Hunger motive :** Our body's need for food is the basic of this motive.
- ii. Thirst motive:** This drive or motive arises from the need for quenching thirst.
- iii. Sex motive:** This motive is not as essential for the individual's survival as food and water.
- iv. Maternal Motive:** The care and protection of the children by the mother is called maternal behaviour of the motive that energises the female to such a behaviour is called the maternal drive or motive.
- v. Aggression motive:** This motive is related to that kind of behaviour which intends to harm other people physically or psychologically.
- vi. Affiliation motive :** Everybody has a strong desire to remain affiliated to a group, family or society. So a person seeks the company of others for give and take of love, affection for sharing each other's sorrows & griefs, failures and achievements. Hence this brings satisfaction & sense of stronger affiliation motive than those children who are brought up in loosely knit families or nuclear families.
- vii. Achievement motive:** This type of motive means a desire to excel more or to achieve higher levels than others in the society. High aspirations and high goals are the needs behind this motive.
- viii. Acquisitiveness or acquisition motive :** Acquisitiveness is the tendency of possessing things. Acquisitive motive is found in small children. It is the urge of storing things or acquiring things e.g. small children collect pictures, stamps, buttons, feathers, coins, leaves etc. It is also an urge to acquire private properties. Hence a person tries again and again to get those things which give pleasure and satisfaction but leaves those things which may harm him.

### **1.3.4 Types of motivation**

There are two types of motivations :

1. Intrinsic motivations
2. Extrinsic motivations

#### **Intrinsic motivations**

When an individual wants to learn or to do something for the sake of learning only then it is known as intrinsic motivation. A person who is intrinsically motivated performs an act because it gives him satisfaction and pleasure. Intrinsic motivation means self-motivation without any external factor or force. It is a force inside an individual that motivates a person to learn something.

#### **Extrinsic motivations**

In this type of motivation an external force motivates the individual to learn. There is a goal before the person that he wants to achieve. Here he gets some award, certificate or appreciation or degree. In extrinsic motivation, the child is motivated by some other person e.g. his peers, parents, teachers or relatives.

### **1.3.5 Motivational Strategies in the Classroom**

Motivation is a powerful factor in learning. But it is difficult to motivate all the children by the same method. Teacher has to create needs for learning in their class in order to arouse motivation. Following are some of the strategies which can be adopted to motivate children :

1. Specifying the goals.
2. Use of teaching aids films, charts, models or any electronic gadgets.
3. Introducing awards, honours, prizes, medals, commendation certificates.
4. Judicious use of punishments and denials.
5. Employment of devices such as stories, puzzles, riddles, competitions, matches, comparisons, illustrations.
6. Bringing variety in teaching.
7. Public recognition of achievements.
8. Display of accomplishments, award of 'good', stars etc.
9. Mid-Day meals.

10. Co-curriculum activities such as quiz contest, declamation, essay writing contest, various types of skits, plays, folk dance etc.
11. Use of psychological methods.

### **1.3.6 SUMMARY**

Motivation is to make the student ready to learn. It is to create interest in the student. Motivation means movement in the person to make efforts to achieve his specified goal. Need, Drives and motives force the person to do some action or effort to achieve his specified goal. Motivation is of two types, intrinsic motivation and extrinsic motivation. Intrinsic motivation is self-motivation. There is no external force that makes the person ready for learning. But in external motivation some external force motivates the individual to do some action to achieve his specified goal, e.g. rewards, appreciation and certificates.

### **1.3.7 SUGGESTED QUESTIONS**

1. What is motivation ? Discuss its relationship with learning ?
2. What are needs, drives and motives?
3. What are motivational strategies?
4. What is intrinsic and extrinsic motivation?

### **1.3.8 SUGGESTED READINGS AND WEB SOURCES**

1. Sharma Meenakshi : Advanced Educational Psychology.
2. Mangal, S.K. Advanced Educational Psychology.
3. Chauhan S.S. Advanced Educational Psychology.
4. Web Sources. Wikipedia

**APPROACHES TO MOTIVATION : BEHAVIOURAL,  
HUMANISTIC, COGNITIVE AND SOCIO CULTURAL**

**Structure :**

- 1.4.1 Introduction
- 1.4.2 Objectives
- 1.4.3 Approaches to Motivation
- 1.4.4 Summary
- 1.4.5 Suggested Questions
- 1.4.6 Suggested Books and Web Sources

**1.4.1 Introduction :**

The term 'motivation' has been derived from latin word 'Movere'. It means to move or to go away. Motivation is an important factor in the learning process. It is a process which enables a person to choose a right direction among his destiny. This means that motivation plays a vital role in learning. In fact, no real learning can take place without motivation. It concentrates the attention and energy of a person on the activity or knowledge be learnt. When an individual has lost his way about his future, then motivation encourage him to achieve success.

**1.4.2 Objectives :**

After going through this lesson the students will be able to :

1. Know about different Approaches of Motivation.
2. Describe the Approaches
3. Explain the Approaches

**Definition of Motivation :**

- \* **According to Skinner :** "Motivation is school learning involving a raising, sustaining, regulating and directing desirable behavior".

- \* **According to M.C. Nunn**, “Anything that initiate internally or externally is called Motivation”.
- \* **According to Dewell**, “Motivation is defined as the arousing, sustaining and initiative activity.

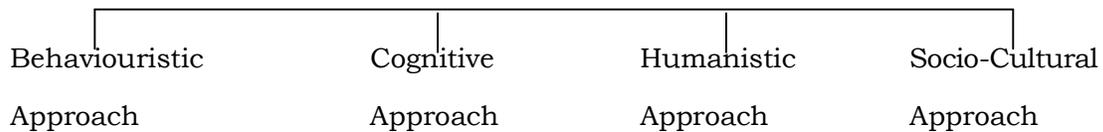
Thus motivation involves following process :

Motive — Behaviour ————— Goal ————— Feedback

Learning to new Motive

Or going with original motive

**1.4.3 Approaches to Motivation** : There are four major approaches to motivation:



### 1. Behaviouristic Approach to Motivation :

According to behaviouristic approach to motivation behaviourists’s views, how and why we behave in a particular manner is fashioned by the experience we receive through the acts of learning or training. Many times our behavior is guided through a simple stimulus-response mechanism as emphasized by thorndike or operated through the mechanisms of classical or operant conditioning as advocated by Pavlov, Watson and B.F. Skinner. B.F. Skinner asserted that an organism behave in the way and manner in which its behavior is shaped through a particular reinforcement schedule. Albert Bandura (1977) maintained that human motivation is mainly guided through social rewards like praise. According to him the imitation of other’s behavior, if it results in a reward provides a valuable motivational source for most of us and that is why the concept of modeling is more commonly employed in the word of industry and advertisement.

### 2. Educational Implication of Behaviouristic Approach :

1. The curricular activities should be according to the child’s mental level of maturity. This will ensure readiness as well as arouse curiosity for new things to be learnt.

2. The law calls upon the teacher to motivate the child before he undertakes any teaching work.
3. Children get to form good habits and attitude by associating with reward, satisfaction and praise.
4. Undesirable attitudes or acts of behavior can be removed by associating them with unsatisfying desirable condition.
5. The acts of rewarding and punishment take this law into consideration.
6. Behaviour problems can be improved by associating them with annoying state of affairs.
7. Interest is directly related to this law children get interested in things which bring pleasant results.
8. Skills like typing, shorthand, athletics and so on can be developed to the maximum.
9. Bad habits can be eradicated. It is believed that if the children are made to practice continuously their bad habits they automatically tend to leave them.

### **3. Cognitive Approach to Motivation :**

The word cognitive means 'mind'. Thus Cognitive Approach to Motivation is something related to mind or thought of an individual. In cognitive approach we discuss about the aspect of the learner :-

- |                |                 |
|----------------|-----------------|
| (i) Expectance | (iv) Ability    |
| (ii) Value     | (v) Attribution |
| (iii) Goal     |                 |

### **Description :**

1. Cognitive Approach to motivation emphasis on the fact that student's motivation is guided by their thoughts.
2. According to this perspective behavior if an individual is determined by his beliefs, explanations and attributes.
3. Cognitive theorists believe that it is the thought or perception of an individual rather than his needs or reinforcement that leads to his motivation.

In Cognitive Approach three theories will be discussed :

The cognitive theory of motivation include the expectancy theory and goal setting theory. The expectancy theory of motivation explains why and how an individual choose one behavioural option over others. On the other hand goal setting theory states the importance of creating goals in motivating a person.

**Expectancy Theory** : Expectancy theory was proposed by victor H. Vroom in 1964, the expectancy theory explicates the behavioural option over another and how this decision is made in relation to their aim of achieving their goal. In this theory three variables are introduced : V for valancy, E for expectancy and I for instrumentality.

**Expectancy** : Expectancy is a variable that represent the belief that an effort of an individual is an outcome of a need to attain the performance goals that he desires. The theory states that there are three factors that influence the expectancy perception of a person which include :

1. **Self Efficacy** : The individual's belief regarding his own ability to perform a specific behavior successfully.
2. **Goal Difficulty** : Occurs when the desired performance goals are too high that might result to low expectancy perceptions.
3. **Controls** : The degree of a person's perceived controls over his performance.

**Valence** : Valence refers to the value that a person sets on the reinforcement or reward. Setting value goals and intrinsic or individual's values, needs, goals and intrinsic or extrinsic source of motivation.

Valence includes : (i) which means the person is trying to avoid the outcome, 0, which means the person feels indifferent toward the results and +1, which means that he welcome the results.

**Instrumentality** : Instrumentality means that a person will get a reward upon the satisfaction of the expected performance. The reward may be presented in various forms – It can be intrinsic or extrinsic, monetary or non-monetary. In this reward is similar for all the activities that a person must perform, Instrumentality is said to be low. There are three factors influencing Instrumentality : policies, controls and trust.

**Motivational Force** : The product of three above mentioned variables – expectancy, valence instrumentality – is called the motivational force. Motivational force (MF) = Expectancy x instrumentality x valence.

If these three variables are 'high' or strong in an individual, then his motivation is also greater.

**Goal Setting Theory :** Another cognitive theory of motivation, the goal setting theory was proposed by Edwin Locke in the 1960s. The theory explains that goal setting has an influence on task performance specific and challenging goals are more likely to motivate a person and lead to a better execution of tasks, whereas vague and easy goals may result to poor task performance. In application, therefore, the goals should be set must be SMART-specific, measurable, attainable, realistic and time bound.

- (a) Expectancy and value theory
- (b) Goal Theory
- (c) Attribution Theory

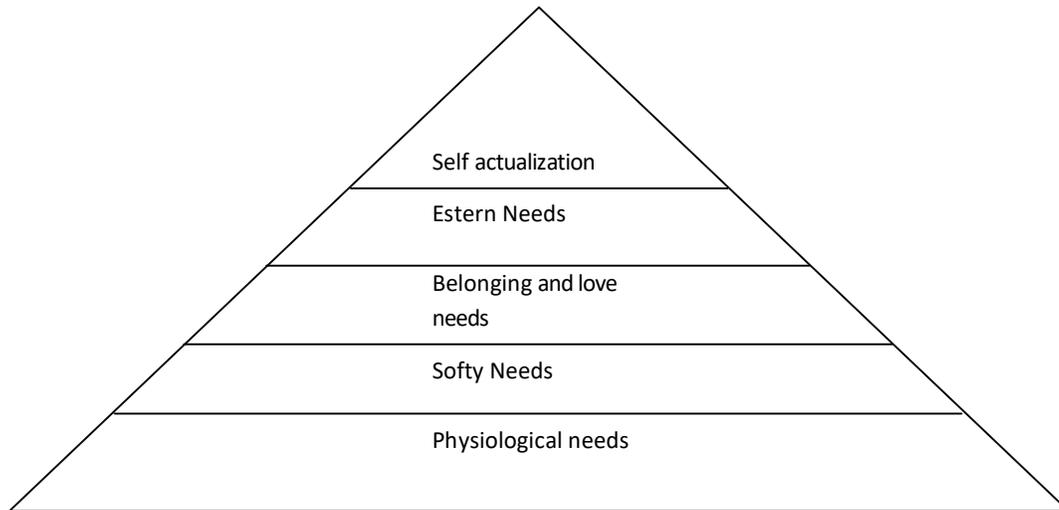
**Educational Implication of Cognitive Theory :**

1. **Using Good Teaching Method :** By using good teaching method to motivate students for learning – Dalton Method, Project Method.
2. **Curriculum :** Good curriculum will be develop according to the need of students.
3. **Co-curricular Activity :** School should be developed co-curricular activity for motivating the students.
4. **Guidance :** Guidance will be provided to the students to motivate for their task.
5. **Importance to Attribution :** Cognitive theorists give importance to thoughts and schemes of an individual that guides process motivation. Thus, it is important to know the cause of behavior performed by a student in order to motivate them.
6. **Role of Teacher :** Teacher can will play an important role in motivating the students by adopting various methods.
  - Encouraging students to do their tasks on their own.
  - Understanding their cause of failure and success.
  - Helping the students to modify their behavior i.e. provide suggestions.

**7. School Environment :** Cognitive theorists are of the view that school environment should be natural and congenial to provoke thought process in students that will motivate them.

## **II. Humanistic Approach to Motivation :**

In 1954, Abraham Maslow proposed that a motivational behavior may satisfy many needs at the same time, thus implying that an act is multi-motivated. Human needs, according to Maslow, arrange themselves in hierarchies of prepotency. In other words the appearance of one need generally depends on the satisfaction of the others. They are closely related to each other and may be arranged from the lowest to the highest development of the personality.



Maslow's hierarchical structure of needs. A need that has been satisfied is no longer a need. It ceases to be a motivating force and therefore, the satisfaction of one need leads an individual to try for the satisfaction of other need so. In this way the motivational behavior of a person is always dominated not by his satisfied needs but by his unsatisfied wants, desires and needs.

### **Educational Implication of Humanistic Approach :**

1. Firstly students want their psychological needs to be fulfilled. They can only be learnt if those needs are satisfied. Teachers should firstly try to locate such needs, satisfy them and go further.

- II. Physical Security comes next. This refers to the health education of the students. The school should take extra step to ensure the health of individuals. It is not without reason that classrooms are made airy, well-lit and ventilated and recess period is provided in the time-table.
- III. Affection is at the third step. Children want to give and receive affections. The parents and teachers should be extra careful in giving
- IV. Belongingness and Self-esteem come at the fourth stage. It should be the function of the parents and teachers both to develop self confidence in the child. For this responsibilities at school and home must be shared with children. Classroom failures and successes will also influence confidence. Parents must help children in their studies and other school assignments.
- V. Similarly recognition, appreciation and prestige also motivates the individual.
- VI. The last stage is self-actualization. For this help the child for his fullest development and don't hesitate to appreciate the child.

#### **IV. Socio-Cultural Approach to Motivation :**

Socio-Cultural theory was first applied by Lev Vygotsky [1896-1934] and his companions in Russia in the year 1920 and 1930. According to Vygotsky how history and society influenced the way that human develop and learn.

This approach to motivation elaborate that society as well as culture both can be utilized as a source of motivation. This approach is specified by Sivan, Lave Vanger Vygotsky, Bandura revealed some different theories regarding this approach. Some of these are :

1. **Socio-Historic** : It was developed by Siran, who revealed that history of the society or individual has an important role to play in the present as well as future, of the individual.
2. **Vygotsky's Zone of Proximal Development** : Vygotsky is a well known psychologist who proposed a zone of proximal development of the individual which is denoted as ZPD. The zone of proximal development is the zone which represent the development of the individual with the help of others. ZPD is the difference of what a person can do with the help of others and what a person can do individually.

**ZPD** : What a person can do with assistance. What a person can do individually. This theory donates that zone of proximal development is the result of zone as a result of external help or external environment.

- 3. Bandura's Theory of Social Learning :** Bandura in his theory of social learning also contributed to the socio-cultural approach to motivation. He revealed that society's environment are somewhere responsible for our learning.

**Stages of Bandura's Theory :**

- a. Observation :** He stated that first of all, an individual observe the behavior environment around him.
- b. Retention :** Then at the second step he retain what he observed if he liked it.
- c. Experiment :** At third step then he experiment what he retained.
- d. Acceptance/Rejection :** At last, he adopt/reject the type of behavior which he experimented.

**# Educational Implications of Socio-Cultural Approach :**

Some of educational implications are :

- {i} Social groups in the classroom could be maintained to motivate the students.
- {ii} The legends from the history should be told about to the students about their work done.
- {iii} A good and pleasant environment should be provided in the school and classroom.
- {iv} The teacher can also work as a role model for the students. Co-curricular activities should be designed accordingly.
- {v} Experimental Method, Project Method, group discussion method should be used.
- {vi} Parents and society should play an integral role.

**1.4.4 Summary :**

Thus according to behaviouristic theory of Motivation an organism behaves in the way and manner in which its behavior is shaped through a particular reinforcement schedule. Cognitive approach stress much upon modification of

mind whether duty of teacher to realize and choose properly. Humanistic approach refers to motivational behavior of a person is always dominated not by his satisfied needs but by his unsatisfied wants, needs. And socio-cultural approach to motivation play an important role in motivating the students.

#### **1.4.5 Suggested Questions**

1. Describe educational implications of behavioural approach.
2. What is Cognitive approach?
3. Describe Maslow's hierarchical Motivation.
4. Describe in detail socio-cultural approach and its educational implication.

#### **1.4.6 Suggested Book and Web Sources**

1. Chauhan, S.S. : Advanced Educational Psychology, 1987
2. Maslow, A.H. : Motivation and Personality, Harpet and Row, New York, 1954

#### **Web Sources :**

1. [en.wikipedia.org](http://en.wikipedia.org)
2. [www.wiziq.com](http://www.wiziq.com)

**Individual Differences : Concept and Causes of Inter-individual differences and Intra-individual differences**

**Structure**

- 1.5.1 Objectives
- 1.5.2 Introduction
- 1.5.3 Inter-Individual Differences
- 1.5.4 Areas of Individual Differences
- 1.5.5 Intra-Individual Differences
- 1.5.6 Causes of Individual Differences
- 1.5.7 Educational provisions for meeting individual differences
- 1.5.8 Summary
- 1.5.9 Suggested Questions
- 1.5.10 Suggested Readings and Web Sources

**1.5.1 Objectives :**

After studying this lesson, the students will be able to :

- (1) Define individual differences.
- (2) Describe inter-individual and intra-individual differences.
- (3) Explain the areas of individual differences.
- (4) Describe the causes of individual differences.

**1.5.2 Introduction**

As you look within yourself and the people around you, you realised that you are a very special and unique being. Nobody else in the world is quite like you. Nobody else uses the identical blend of defence mechanisms that you use when encountering stress, and nobody else is guided by the exact mixtures of motives, attitudes and feelings. Thus, one of the basic themes of psychology is that of individual differences : No one is exactly like anyone else.

During the ancient and medieval periods individual difference was believed to be the capacity of attaining skills in a particular subject. In modern schools, other kinds of skills and abilities and peculiarities

of personality in individuals are also taken into consideration. According to Skinner, "Today we think of individual differences as including any measurable aspect of the total personality." From this definition of individual differences it is evident that it comprehends every aspect of the human personality manner, all aspects that are in some manner measurable. Aspects of this nature can be many such as variability, conformity, difference in the rate of learning and development of mutual relationship between the various characteristics of personality etc.

Individuals can be easily distinguished from one another by their gestures, their ways of talking, acting and by watching their appearance. And these changes cause every man to be himself and nobody else. Identical twins coming from the same single cell are two quite different persons. In the similar way there are no individuals of identical mentality.

Although all human beings possess certain universal common characteristics such as physical body, intellectual capacity, emotions, feelings physiological and psychological needs, they differ in respect of their quantitative aspect. There may be qualitative similarities but there are quantitative differences among them. The concept of individual differences refers to quantitative differences among individuals in respect of specific trait or various traits.

Thus, it is an established fact that the individuals differ in mental abilities as well as in physical abilities and personality traits. The individuals not only differ from one another, but also each individual differ from one ability to another within his own self.

Thus, there are variations not amongst individuals, but there are variations within the same individual among his own abilities. The problem of individual differences, therefore, can be viewed from two sides :-

- A. Inter-individual differences.
- B. Intra-individual differences.

**1.5.3 Inter-Individual Differences** :- Differences in the abilities from individual to individual i.e. difference between individuals. The living organism whether human being or other differ in size, shape, appearance, speed of reaction and in other aspects of behaviour. These differences between individuals distinguish them from one another and make one as a unique individual in one self and are

named as “Individual differences” in psychological terminology. It implies vast range of variations that are commonly observable among various human beings.

#### **1.5.4 Areas of Individual Differences**

The following brief description may serve to make individual differences a simple concept that can be easily grasped :

**1. Differences in Physique :-** This means tall or short, thin or fat, fair or black etc.

**2. Differences in Health :-** It means healthy or ill, weak or strong.

**3. Average Intelligence :-** Individuals are seen differing in considerable measure in respect of their general intelligence. It is not possible to send to schools children with an intelligence quotient of below 50. Children with intelligence quotient between 50 & 70 can learn only the simplest tasks. Children between 75 and 90 I.Q. are considered morons and they have considerable difficulty in progressing along with other children in their learning. Generally, 40 to 60 percent of the children in schools have I.Q.s varying between 95 to 105, being the children with average intelligence who form the basis for the formulation of the syllabus and curriculum as well as method of teaching. Children who are either above or below this level and intelligence require special educational methods and conditions, whether they are intelligent or below average.

**4. Special Abilities :-** The individual differences in respect of special abilities, in addition to the general intelligence, are also important. During the junior high school as well as the college stage, special professions and specialised fields of vocation all need certain specific abilities. Abilities of this kind are concerned with mental, artistic, personality or motor ability.

**5. Differences in Socio-Economic Status :-** Differences in children's interest, tendencies and character are caused by differences in economic and social status, because in a school children come from different families, communities, culture and different classes. Attitudes towards education and authority differ in each family, culture and class. Besides these attitudes, the child's emotional, social, aesthetic and moral development is influenced by his family, neighbourhood and socio-economic status.

**6. Alacrity in Learning :-** Difference in the quickness or alacrity in learning is visible not only in children of different ages but also among children in the same age group. This difference is dependent

upon their maturity and educational background.

**7. Mental Age :-** Children of different ages as well as children of the same age show differences in their respective mental ages. Generally speaking all students studying in the same class differ according to their mental ages. Mental age is the age received in an intelligence test. It has been observed that in the age of 6, differences in mental age range upto 5 years. Mental age and education are intimately related. The child's level of education is determined according to his mental age.

**8. Differences in Attitudes :-** Individuals differ in their attitudes towards different people, objects, institutions and authority.

**9. Differences in Achievement :-** With the help of achievement tests, differences can be found in reading, writing and in learning mathematics and other abilities of individuals. These differences in achievement are even visible among the children who are at the same level of intelligence.

**10. Differences in Motor Ability :-** The individual's movements of the hand and feet and other physical abilities are seen to be very individual, as they do not resemble another's to any great extent. Till the individual attains adulthood, his manual dexterity, rate of muscular movement and resistance to fatigue develops continually. In this manner, the same individual in different ages and different individuals in the same age group manifest considerable differences in manual dexterity.

**11. Emotional Differences :-** Individual's differ in their emotional reactions to a particular situation. Some are irritable and aggressive and they get angry very soon. On the other hand who are of peaceful nature they do not get angry easily.

**12. Sex Differences :-** Matneimer and Terman discovered the following differences between men and women, on the basis of some studies :

1. Women have better skill in memory while men have better motor ability.
2. Female handwriting is superior while men excel in mathematical logic.
3. Women show greater sensory distinctions while men show greater reaction and consciousness of size-weight illusion.
4. Women possess greater linguistic ability whereas men are superior in physics and chemistry.

5. In mirror drawing women are better than men whereas in faults of speech men were found to be three times of such faults in women.
6. Young girls take interest in stories of love, fairy tales, stories of the school and home and day-dreaming. On the other hand, boys take interest in stories of bravery, science war and scouting, stories of games and sports, scouts stories and games of occupation & skill.

**13. Racial Differences :-** Many scientific studies have indicated the presence of various kinds of differences between individuals of different races, although differences of environment are a normal factor in causing these differences.

**14. Nationality :-** Many studies have lead to the conclusion that individuals of different nations differ in respect of nature, physical and mental traits, interest and personality etc. Such a difference is only natural since their cultural and geographic environment is distinctive.

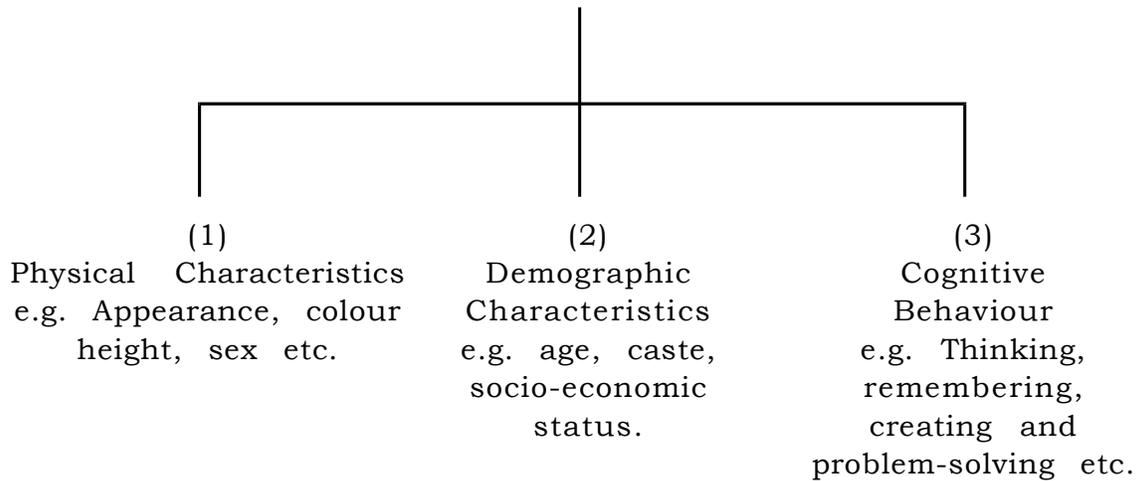
**15. Differences in Affective Factors :-** There are differences in attitude towards ideas, subjects, things and people etc. Likewise differences in interests.

**16. Differences with Reference to Learning Ability and Speed of Learning :-** This is our daily experience in a class that some boys learn things quickly, other take days to learn it and some do not learn at all.

**17. Difference in Respect of Development :-** Difference in development is evidence not only in individuals of different age groups but also between individuals of the same age. It includes social and emotional development which includes emotional maturity and emotional stability etc.

**18. Personality Differences :-** Many classifications of personality differences are made. According to Hippocrates, people are of four types : (a) Sanguine (b) Choleric (c) Melancholic (d) phlegmatic. According to Jung, people can be classified into three types : (a) Introverts (b) Extroverts (c) Ambiverts. Terman has classified people on the basis of intelligence into nine categories : (i) Genius (ii) Near Genius (iii) Very superior (iv) Superior (v) Average (vi) Backward (vii) Feeble minded (viii) Dull (ix) Idiot.

**THREEFOLD BROAD CLASSIFICATION OF  
INDIVIDUAL DIFFERENCES**



**1.5.5 Intra-Individual Differences :-** Differences in abilities within the same individual i.e. there are differences in different abilities within the same individual. For example, one having academic achievement but not having achievement in sports field. The child may score good marks in mathematics but poor in languages. One may find science interesting but may not show interest in history.

Differences are noticed within the same individual when he is studied in respect of various traits. As one individual may possess a good height, but he may have a very low weight. A student may demonstrate superior performance in school related subjects, but at the same time his performance in dramatics may be low. A girl student may look attractive and beautiful, but she may be an average student in relation to studies. Even differences may also be noticed in the same individual with respect to his performance on a particular task at different times. Runners differ in running the same distance. The same runner may cover the same distance taking different times on different occasions. This is what we call intra-individual differences.

**1.5.6 Causes of Individual Differences**

To understand the causes of individual differences many factors must be considered. These factors are as follows :

1. Genetically determined biological variables e.g. Heredity.
2. Non-genetic biological variables.
3. The child's past learning.
4. The immediate social-psychological and cultural environment.
5. Influence of physiological factors.

**1. Heredity :-** Life begins at conception. Conception occurs when a sperm from father unites with the ovum from the mother. At this moment 23 chromosomes were released from sperm and 23 from ovum. These chromosomes contain genes and genes are the real carriers of heredity. Combination of genes vary from conception to conception. This is why two children of same parents are so different physically and mentally. Moreover, different children in a family inherit different combinations of their mother's and father's genes. This results in individual differences among children of the same parent.

**2. Non-genetic biological variables :-** Non-genetic biological variables are malnutrition and lack of oxygen at the time of birth process, any mental shock etc. During conception sometimes there is insufficient supply of oxygen or there is total lack of oxygen which results in adverse effect on the growth of the child. Malnutrition at the time of pregnancy also leads to certain defects in the child or any mental shock to a conceived lady also affects the growth of child. All these non-genetic factors leads to individual differences.

**3. The Child's past learning :-** Past learning of the child is related with the previous knowledge of the child, his prior experiences and the retention and recall ability. The prior experiences of the child and retention and recall abilities leads to individual differences between the individuals as all individuals have different retention and recall ability and all individuals have different types of experiences with life.

**4. Immediate Social-Psychological Environment :-** In addition to genetic factors, environmental factors also cause individual differences. Several studies indicate that children who are exposed to pre-school education, rich language experiences, large vocabulary of adults, children's literature and other forms of stimulating environment and opportunities during early years of their life have better cognitive development than children who deprived of such opportunities, experiences, encouragement and guidance from parents and other adults. Environmental influences are not responsible for individual differences in intelligence but also they cause differences in

personality and adjustment. In this relation it includes interpersonal relationship in the family, peer group influences, cultural and social forces, and emotional climate of school. Certain personality traits like extroversion, introversion, maladjustment, mental disorders, stress tolerance etc.

**5. Influence of Physiological factors :-** Physiological factors also cause individual differences among children. For example : Maturation process - late maturation and early maturation. Studies indicate that late maturers are rated less attractive in physique less well-poised, more tense & more eager. They tend to engage in more attention-getting behaviour, are restless talkative and bossy. In contrast, every maturer emerge as more reserved, more self-assured, more appropriate behaviour. Early and late maturation makes a great deal of differences in boys than girls because of social expectations.

We have examined how genetic, environmental and physiological factors cause individual differences in intelligence and personality. As is evident now, individual differences are caused not by any single factor, but by the interplay of genetic, environmental and physiological factors. Some differences are largely controlled by genetic factors. Others are controlled by environmental or physiological factors.

#### **1.5.7 Educational Provisions for meeting Individual Differences**

Children differ in their learning abilities. Schools have important duties and responsibilities to make provisions to meet individual differences in the classrooms so that every child is helped to rise in a height commensurate with his own abilities. The following are a few of the important steps that a school might take up in this direction.

**1. Every individual's ability should be assessed as accurately as possible :-** Since individuals possess varying degree of cognitive and psychomotor abilities, it is difficult to locate the exact standing of a child. Hence it is imperative that the abilities of children should be accurately assessed so that better provisions can be made.

**2. A Good Environment and Proper Education are Necessary :-** Heredity and environment play very vital role in determining eventual adult performance. Hence a good environment and proper education are necessary for all.

**3. Identification of Special talents :-** With the help of standardised tests we can identify abilities of children. The identified talents should be properly nurtured.

**4. Educational Provisions must be continuous :-** In order to provide well, educational provisions must be continuous for the children of entire range of abilities. The continuity must be ensured especially when children pass from one stage of education to another, or from one school system to another.

**5. Adequate Facilities and Materials are needed :-** Bright children need more advanced instructional material than other children. The slow learners also require reading materials different from the rest of the group. The sensori-handicapped and emotionally disturbed children also require special materials, equipment and space. In order to provide well for individual differences, every school should be properly equipped so as to meet the need of all kinds of children.

**6. Competent School Staff is Needed :-** Society should recognise the importance of well-educated and competent school staff and give the necessary financial support to schools. Every school should have competent teachers, school psychologists, guidance workers, curriculum, supervisors and administrators.

**7. Curriculum according to the abilities of children :-** In school curriculum should be modified to suit the need of all type of children, whether they are dull, average or brilliant.

**8. Method of Education :-** Method of education should be varied to suit and confirm to their individual differences and mental requirements.

**9. Educational guidance :-** Knowing the personal differences between his students the teacher can render them signal service by guiding them in their educational career.

**10. Vocational guidance :-** Different professions require some specific physical, mental and personality traits of the individual. Hence, knowing their peculiar mental make-up and their tendencies, the teacher can guide the students in the vocation that they should adopt.

**11. Individualisation of Instruction is Necessary :-** Individualisation of instruction refers to adopting instructional methods and materials to the need and abilities of individual student. The open learning system, self-learning system, programmed instruction, tutoring, individually prescribed instruction, individually guided instructions are the examples of individualising instruction.

### 1.5.8 SUMMARY

Two facts emerge when human development is studied. One, that the development of separate individual exhibits certain similarities. Two different individuals show differences from the biological and social view point. Generally speaking these differences are quantitative rather than qualitative. In other words same qualities are to be found in most individuals but it is the quantity or intensity of these qualities that differs in these individuals. And this difference leads to considerable differences in the education of different individuals. Individual differences are of two types :

**(1) Inter Individual Differences :-** In this case differences in the abilities from individual to individual. Individuals differ from one another in physique. Health, intelligence, special abilities, socio-economic status, mental age, attitudes, achievemental, motor ability, gender, emotionally, and in affective factors etc.

**(2) Intra-individual differences :-** Differences in abilities within the same individual.

There are various causes of individual differences as :

- (1) Genetic factors/variables.
- (2) Nongenetic biological variables.
- (3) Child's past learning.
- (4) Immediate social-psychological & cultural environment.
- (5) Influence of physiological factors.

### 1.5.9 SUGGESTED QUESTIONS

1. Define Individual differences. Describe various types of individual differences.
2. Discuss in detail various causes of individual differences.

### 1.5.10 SUGGESTED READINGS AND WEB SOURCES

<b>Name of Book</b>	<b>Name of Author</b>
1. Fundamentals of Educational Psychology.	M. Dash and Meena Dash.
2. Educational Psychology	Ram Nath Sharma and R.K. Sharma
3. Basic ideas in educational psychology	J.C. Aggarwal.
4. Advanced educational psychology	S.S. Chauhan.