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M.Sc. [Psychology]

I - Semester

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THEORETICAL PERSPECTIVES IN PSYCHOLOGY

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UNIT 12: Phenomenological Theory and Cognitive Theory

Kelly's Personal Construct Theory, Roger's Self Theory, Lewin's Field Theory, Festinger's Cognitive Dissonance Theory, Mischel's Cognitive-Behavioural Theory

UNIT 13: Psychology in India

Introduction; Twentieth Century Psychology in India and future perspectives.

UNIT 14 : Approaches of Psychology

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INTRODUCTION

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Psychology is the study of the mind, along with its aspects such as perception, cognition, emotion and behaviour. The immediate goal of psychological studies is to understand behaviour and mental processes by researching and establishing the general principles as well as the specific cases. As a science subject, psychology makes an effort to study a subject with an explicit promise to think logically and adhere to the empirical facts as closely as is humanly possible. For many practitioners, one goal of psychology is to benefit society. A psychologist can be classified as a social scientist, behavioural scientist, or cognitive scientist. Psychologists attempt to understand the role of mental functions in individual and social behaviour, while also exploring the physiological and neurobiological processes that underlie certain functions and (human) behaviours.

The book is divided into four blocks. The blocks are further divided into fourteen units. Block I discusses the psychoanalytical, behaviouristic, humanistic and existential perspectives in detail. Block II describes the theory of personality and its various perspectives. Block III discusses the psycholinguistic approach in psychology. It explains topics like perception, attention, memory and decision making. Block IV analyses the various approaches in psychology. It also describes its scope in India.

The book, *Theoretical Perspectives in Psychology* is divided into fourteen units. It follows the SIM format or the self-instructional mode wherein each Unit begins with an Introduction to the topic followed by an outline of the Objectives. The detailed content is then presented in a simple and organized manner, interspersed with Check Your Progress questions to test the understanding of the students. A Summary along with a list of Key Terms and a set of Self-Assessment Questions and Exercises is also provided at the end of each unit for effective recapitulation.

BLOCK - I

*Psychoanalytical
Perspective*

VARIOUS PERSPECTIVES IN PSYCHOLOGY

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UNIT 1 PSYCHOANALYTICAL PERSPECTIVE

Structure

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1.0 INTRODUCTION

People differ by nature, not only in their ability to perform a specific task but also in their will to do so. People with less ability but stronger will are able to perform better than people with superior ability and lack of will. Hard work is crucial to success and achievement. This belief was underscored by Albert Einstein when he said that 'genius is 10% inspiration and 90% perspiration.' This 'will' to do is known as motivation.

The force of motivation is a dynamic force setting a person into motion or action. The word motivation is derived from motive that is defined as an active form of desire, craving or need that must be satisfied. All motives are directed towards goals. New needs and desires affect or change your behaviour that then becomes goal oriented. For example, if you ordinarily do not want to work overtime, it is likely that at a particular time, you may need more money (desire) so you may change your behaviour, work overtime (goal oriented behaviour) and satisfy your needs.

Viteles defines motivation as follows:

'Motivation represents an unsatisfied need which creates a state of tension or disequilibrium, causing the individual to move in a goal directed pattern towards restoring a state of equilibrium, by satisfying the need.'

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1.1 OBJECTIVES

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

- Explain the history of psychoanalysis
- Describe Sigmund Freud's approach and theory of personality
- Explain theory of personality as given by Carl Jung and Adler
- Analyse Neo-Freudian approach
- Discuss the concept of therapy and its applications

1.2 HISTORY

Psychoanalysis means several things—a system or school of psychology, a theory of personality, a method of therapy and a technique of research. Here we will discuss psychoanalysis as a system of psychology and in the subsequent chapters we will describe psychodynamic theory of personality developed by Freud and his technique of psychoanalytic therapy. Before we mention the fundamental principles of psychoanalysis, let us examine in brief the life history of Freud and the influences on him which contributed in the development of his theory.

Brief life history. Sigmund Freud was born in Austria in 1856 to Jewish parents. He qualified himself as a doctor from Vienna in 1881. Most of his life he stayed in Vienna except before his death on September 23, 1939 at the age of 83 in London. The great influence on his life originated from two sources (a) his studies with Charcot in Paris involving hypnosis, hysteria and the sexual basis of mental disturbances, (b) in 1880 another friend of Freud, Josef Breuer was treating a woman for symptoms of fainting and coughing. The treatment of the woman was transferred to Freud who treated her successfully. With this background and experience he developed his own method of psychoanalysis.

Tenets of Psychoanalysis

Topography of the mind. Freud was the first psychologist who systematically attempted to explore the unconscious part of human personality. He proposed a theory that greater part of our personality lies buried in unconscious. He compared mental phenomenon with an iceberg floating on the surface of the ocean whose greater portion remains under the surface of the water. We cannot study a human being by observing his overt behaviour because most of repressed desires, thoughts and feelings remain in unconscious and continually influence our behaviour. The following reasons were given by Freud to show the existence of unconscious:

1. Dreams prove the existence of unconscious
2. Slips of tongue and pen
3. Forgetfulness
4. Somnambulism
5. Solution of problems during sleep
6. Post-hypnotic suggestions
7. Neuroses and psychoses

Freud attributed three qualities to mental process: conscious, preconscious and unconscious. Conscious relates to a phenomena we are aware of at any given moment. Reality testing perception of the external world entails consciousness; the preconscious stands between conscious and unconscious and it is the aggregation of experiences we are able to be aware if we attend to them; and unconscious is the phenomena of which we are unaware and is not accessible except under special circumstances.

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1.3 SIGMUND FREUD'S APPROACH

Now we will discuss the theories of personality which place importance on dynamics of human behaviour. First, we will describe the views of classical psychoanalysis and then the views of neo-Freudians who deviate from Freud but claim to be psychoanalysts. Here we will describe the theory of personality.

Freud's Theory

Basic Concepts

Instincts. Freud was the first psychologist who placed great importance on instincts as the determinant of human behaviour. He proposed two instincts: (a) *Eros*, the love and self-preservation, and (b) *Thanatos*, the death instinct, as the ultimate cause of all human activities.

Psychic Structure

Psychic energy, according to Freud, comes from libido. It denotes sexual energy. When he revised his theory which includes two groups of instincts, the libido was defined as the energy of all the life instincts. The sexual libido was regarded as the source of primary driving force of the personality. The dynamics of personality is seen as largely governed by the need to gratify the libido.

The id. It is inborn. Its main function is the discharge of psychic energy which when pent up produces tension through the personality system. The id

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operates on animal level. It cannot differentiate between good and bad, and operates on pleasure principle.

The primary process thinking explains id behaviour as resulting from pent-up tensions which Freud described as frustration. The primary process attempts to discharge tensions by bringing into consciousness memories associated with the source of frustration.

The ego. The id knows only the subjective reality of the mind. The second concept of Freud is the ego which distinguishes between subjective reality and things in the external environment. It operates on the principle of reality. The ego is called the executive of personality. It obeys the reality principle and operates by means of secondary process. The pleasure principle is only concerned with whether an experience is painful or pleasant; the principle of reality is concerned with whether it is true or false. The ego formulates a plan for the satisfaction of the need and executes it, keeping into consideration the reality principle. It often integrates the conflicting demands of id, the superego and the external world.

The ego is an organised portion of the id which has been modified by the contact of external reality and experience. It comes into existence to forward the aims of the id. It brings a compromise between the instinctual urges of the id and demands and forces of the external environment. Freud remarked about the function of ego. "The poor ego ... has to serve three harsh masters, and has to do its best to reconcile the demands of all three."

Explaining the relationship between ego and the id, Freud once said, "Imagine that the relationship between the ego and the id is similar to the relationship between a horse (id) and its rider (ego). While the rider usually determines the direction of the horse, there are those times when it is the horse who leads the rider."

The superego. The third concept is the superego. It is the agency which internalizes the parental influences and ideals of society through early childhood experiences. It represents the ideal rather than the real and strives for perfection. It works in accordance with the moral standards authorised by the agents of society.

Let us explain it with the help of an example: suppose there is a beautiful toy in the room; the child sees it and runs towards it. This is the id level. The second stage is that the parents instruct the child not to touch the toy. The child sees the toy but does not touch it out of fear of punishment in the presence of his parents. The third stage of development is when the toy is in the room. Parents are not there but the child does not touch the toy. It is the superego. The superego involves the internalization of parental control in the form of self-control.

We can say that id is biological and seeks pleasure, ego is psychological, test reality. The superego is social-self and seeks perfection.

The superego develops gradually by the process of reward and punishment meted out by the parents to the child in early childhood training. The parental reward and punishment is substituted by self-control. The individual with a well-developed superego refrains from bad or evil temptations such as stealing or telling a lie, etc. even in the absence of punishing agent. The process of adoption of the moral and ethical standards of family and society is called the process of introjection.

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Dynamics of Personality

According to Freud, the human organism is a complex energy system which derives its energy from the food it consumes. The energy created by biological factors may be transformed to psychic energy. Three parts of psychic structure—id, ego and superego—are in constant conflict. The dynamics of personality involve a continuous interaction and clash between id impulses seeking release and inhibition imposed by the superego. The individual is in quest for immediate gratification of impulses, seeks pleasure and avoids pain in order to reduce tension. The drive for immediate satisfaction of instinctual demands leads to early clash between the individual and his environment. Conflicts develop when the parents or other members impose restriction or control on expression. There is a perpetual warfare between the pressure of the environment and the demands of the id and superego. The ego, in order to adjust in the social environment, utilizes a number of mental mechanisms to it and the demands of the id and the superego which reduce tensions of the individual.

The Development of Personality

Freud organized his personality theory around psycho-sexual stages of development. Body pleasure or erogenous zones shift from one part of the body to the other as the child advances in age such as mouth, anus and genitals. There are four distinctive stages of psycho-sexual development: oral, anal, phallic and genital through which the child moves. According to Freud, the person's experiences at each stage leave some characteristic impressions and imprints that influence his future personality development. The specific sex experiences at any of the stage either in the form of over-indulgence or deprivation may produce fixation which means an arrest of sexual impulses at any early stage of psycho-sexual development.

Evaluation of Freud's Theory

Freud's theory of personality has revolutionized theory and practice of psychology and made major contribution to understand personality

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mechanisms. It has greatly influenced all social sciences as regards their approach to human behaviour. Many researches have been conducted to test the theory of psycho-analysis. We will describe the advantages and weaknesses of the theory.

Advantages

1. It is a comprehensive theory of human behaviour which includes all aspects of personality and its complexities.
2. It is a holistic approach to understand human personality. It does not divide the personality into specific traits. It gives more emphasis to functioning of the individual as a whole.
3. It gives more freedom to the individual to respond in the form of free association.
4. The theory recognizes the importance of unconscious motivation in the development of behaviour patterns. It has investigated and discovered underlying phenomena of personality by means of extensive observation of patients.
5. Commenting on the contribution of psycho-analytic theory of personality, Inkeles remarked, "Many, perhaps most, of our theories of personality deal not with personality as a whole, but rather with some selected aspect or process. Freudian theory kept the whole personality in view Freud produced this general theory not out of a combination of existing elements, but largely by new creative insights. His theory, therefore, has a scope, a unity and a coherence which is unmatched in psychology."
6. His theory of causal determination and emphasis on early childhood experiences as the important factors have been accepted by behaviourists as an important contribution to psychology.

Weaknesses

There are psychologists who do not agree on the basic concepts and methodology used by Freud. Many research scholars have conducted studies on psychoanalytic approach to personality and pointed out the weaknesses of the theory in their studies. Some of the common weaknesses are summarized as follows:

1. Some psychologists have criticized the theory on the basis of methodological procedure. The data of psychoanalysis consisted the reports of the patients without any verification from other sources. No systematic procedure was followed by him in data collection and its recording. He never validated his hypotheses against any criterion.
2. The method of analysis by reconstructing the patient's history on the basis of what the patient says is a source of information that cannot

be relied upon for scientific study of behaviour. Psychoanalysis is an interpretation of behaviour. It is not an explanation of behaviour.

3. He has laid more emphasis on sex as an explanation of human behaviour which has been discarded by psychologists.
4. Freud used a number of concepts in his theory which have not been defined clearly. They are ambiguous in their meanings. The language of the theory is so vague that researchers seldom agree on the meanings of a term. For example, repression and libido have been used for different concepts at different times by Freud.
5. There is lack of quantification and statistical analysis of the data. He never quantified his findings. It is purely a descriptive theory. Quantitative estimates of relationships among various concepts are never made. The theory is confusing and difficult to test.
6. One important and major weakness of the theory is the lack of predictability. The theory does not provide any systematic procedure to predict the behaviour of the individual under different circumstances. The theory has not been substantiated by scientifically respectable procedure for investigating human behaviour. Objective verification of the data is practically impossible. The claim of Freud to study subjective phenomena by objective methods seems to be baseless.
7. The theory gives importance to internal organization of behaviour and past experiences in the development of personality. It decreases the importance of the present experiences and social environment to which the individual must adjust. Freud's theory is based on the concept of instincts which has been discarded now.
8. McDougall writes, "the theory of strict determinism developed by Freud leaves no scope for creativity and volition on the part of human beings. The theory was taught a generation ago by men of science and philosophers with dogmatic confidence. In modern days the theory has been discredited on the basis of recent scientific investigations."
9. Freud's conception that psychoneurosis involves sex instincts and is the result of fixation and regression in the action of libido has been proved wrong by the cases of neurosis in soldiers in First World War.

NOTES

Check Your Progress

1. State one source that influenced Sigmund Freud's life.
2. Name the three qualities to mental process.

NOTES

1.4 CARL JUNG'S THEORY OF PERSONALITY

C.G. Jung (1875–1961) was a close associate of Freud and worked with him up to 1912. He was so important a member that he was made the President of International Psychoanalytic Association in 1910. After 1912 the personal relation between Freud and Jung began to cool down and finally they separated from each other. Though it is difficult to assess the causes of break-up in the relationship between them but one of the reasons, most probably, includes Freud's tremendous emphasis on sex as the principal motivating force in life.

Jung rejected 'Libido' as the only driving force in life. He developed his own system of psychology called 'Analytical Psychology'. He viewed the libido as a generalised energy. Besides sexuality, libido also includes other strivings for pleasure and creativity. The basic principles of his theory are as follows:

The Structure of Personality

According to Jung, there are three elements of personality: the conscious ego, the personal unconscious, and the collective unconscious. A brief description is given below:

- (a) *The conscious ego*. The conscious ego is just like the concept of ego given by Freud. It is, in fact, the sense of 'being' which includes conscious aspects of thinking, feeling and remembering.
- (b) *The personal unconscious*. It consists repressed and suppressed experiences of the individual which are accessible to the conscious. The personal unconscious is highly individualistic in nature. The variety of experiences individuals have in their social environment, constitute the personal unconscious.
- (c) *The collective unconscious*. The most significant and controversial concept of Jung's Analytical Psychology is the concept of the collective unconscious. It is primitive in nature and is composed of the material which has never been conscious. Every individual is endowed with the collective unconscious which acts as a storehouse containing man's racial history, his prehuman and animal ancestry in the form of inherited neural patterns. He believed that all people have the same collective unconscious because of the similarity of born structure and racial experiences. It is impersonal, universal and archaic. It contains all good and bad, the low and lofty. According to Jung, the collective unconscious is the reservoir from which all other systems emerge.

Significant Concepts

1. **Archetypes:** The collective unconscious is made of universal ideas (thought forms) which are called 'Archetypes'. For example, the

archetype of mother is a universal idea which is inherited from generation to generation. The baby, at the time of birth, inherits a performed conception of mother. This conception of mother is modified by the experiences the child has with his mother.

2. **The Persona:** Persona is a mask which we wear to meet the social roles and conventions in the society irrespective of our real personality. The mask or persona represents the roles that society assigns to a person. If people emphasise the persona too much, there may be loss of sense of self and a doubting about who they are.
3. **The Anima and Animus:** The concept of anima and animus recognizes the biosexuality of human species. A man has an anima which constitutes the feminine attributes and woman has an animus which represents her masculine side. It indicates that both feminine and masculine characteristics are found in man and woman. According to Jung, the development of the archetypes of anima and animus are attributed to the racial experiences of the sexes with each other. The man living with woman from time immemorial has become somewhat feminine and woman living with man has become somewhat masculine. In modern society, the archetypes of anima and animus are in action. Boys wear feminine dress and girls wear masculine dress. Boys and girls are identifying with the members of opposite sexes in dress and other activities of life. Sometimes it is very difficult to differentiate between a boy and a girl with a similar kind of dress and hair style.
4. **Shadow:** The archetype of shadow includes animal instincts that man has inherited from lower forms of life. It is the animal side of a person. It is just like 'Id' of Freud.
5. **The Self:** Jung gives importance to the concept of self as an organizing agency of the personality. He conceived that self plays an important role in the development of personality. The self gives unity and stability to personality characteristics. He stressed that the only real adventure remaining for each individual is the exploration of his inner unconscious. The ultimate goal of such a search is the forming of a harmonious and balanced relationship with the self.
6. **Psychological Types or Typology:** Jung is well known for two psychological types—the extrovert and introvert. The extroverted attitude represents an orientation toward the external world. This type is socially engaging, active, and venturesome. The introvert attitude involves an orientation toward the inner, subjective world. The introverted type is hesitant, reflective and cautious. Both are ordinarily present in the personality of an individual but one of them is dominant and conscious which becomes the basis of classification of personality.

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From these two main types, Jung further classified four types of each on the basis of psychic function that predominates thinking, feeling, intuition and sensation. Every individual possesses these four functions.

Jung described personality in terms of polar tendencies that are likely to be in conflict with one another. Opposition exists everywhere in the personality, for example, of the four psychological functions, one is more dominant than the other and plays a predominant role in the consciousness.

- 7. Psychic Energy:** The concept of psychic energy of Freud and Jung is the same. Psychic energy originates from the metabolic process of the body. Jung used the term libido interchangeably with psychic energy but his concept of libido is broader than Freud's. It is all inclusive and corresponds closely to Bergson's 'elan Vital'. It is innate but set in the cycle of growth. It is sex infused but more than sex. Sex expression is a form of genetic process. He accepts the concept of fixation of sex as a source of disharmony in development. Psychic energy flows from weaker value to stronger value and maintains the balance of personality.

Development of Personality

Man is more than a creature desiring power and gratification of his sex urges.

He is a member of a complex society. He tries to achieve self-actualization which is the ultimate goal. All behaviour is directed towards the goal one sets for himself. The present is determined not only by the past but by future expectations. Man is continually striving toward higher goal and development. The individual is engaged in the solution of universal problems in his own way.

In late thirties or early forties, spiritual and cultural values made their way into the life of individuals. Jung developed a full-fledged system of psychotherapy to treat mental patients. No doubt, Jung has explored the new dimensions of personality and his theory is famous for its new concepts of extroversion-introversion, self and purposeful goal-directed behaviour of the individual which have been accepted by modern psychologists but he is criticized for his concepts of archetypes, racial unconscious and mysticism. His concepts are not verifiable by means of scientific methods. His theory emphasizes the importance of religion, culture of the race and metaphysical concepts. His theory could not generate research studies after him but now efforts are being made to revive interest in his theory by publishing his original papers in a book form.

1.5 ADLER'S THEORY

Adler was also a member of Freudian group. He made valuable contribution to psychoanalysis in its infancy. He disagreed with Freud on some issues and afterward finally separated himself from him. He formed his own group of associates. Adler developed a system of thought called 'Individual Psychology'.

Basic Concepts

Adler was the first psychoanalyst who de-emphasized the concept of inborn instincts and gave full stress to social factors in the development of personality. He also developed the concept that personality of an individual is unique and the individual is aware of the reasons of his actions. He conceived of man as capable of consciously planning and guiding his actions toward self-actualization. He conceives 'Will to power' as the central force in the behaviour of the individual. He refers three types of adjustment which the individual makes in his life—to society, to vocation and to love. In making adjustment to these situations, an individual is helped or handicapped according to the experiences of childhood. Adler emphasizes the helplessness with which every child is born. There is an inherent urge in the child to grow, to dominate and to be superior.

Striving for Superiority

By superiority Adler means striving for perfection or self-actualization. In earlier writings he emphasized the 'will to power' as a motive but in later writings he replaced 'will to power' to striving for superiority. Every man is pushed by the urge to reach the higher levels of life. This striving for superiority is innate but it can manifest in various ways in the life of the person. The striving for superiority is innate in the child. Sometimes the feeling of inferiority compels the child to compensate his inferiority in that area or in any other area. In his early writings, he introduced the concept of compensation for bodily inferiorities. Adler quotes the examples of Beethoven who despite being slightly deaf from childhood, went on to become a great musician and Demosthenes who did not rest till he had overcome his stammering to become one of the greatest orator in history. He regarded feelings of inferiority as universal and the individual makes attempts to compensate for feelings of inferiority and inadequacy with which he is born. The feelings of inferiority help the individual to improve his circumstances.

Fictional Finalism

Adler believed that man is motivated by his expectations of the future goal. Fictional finalism means that man's actions are grounded in fictional ideas

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that necessarily do not conform to reality. Some examples of these fictions are belief in life after death or that evil actions are always punished. When such fictions are believed, they seem to help man to cope more successfully with life. He believed that expectations for future orient man more than events of the past. The future goals of man affect his present behaviour as for example, in India fiction of heaven, exercises enormous influence on our total behaviour.

The Style of Life

The style of life is an abstraction that includes everything of living within some characteristics, plan or means of attaining the life goal. It is a unique quality of personality which differentiates one person from the other. According to Adler, human aims are the same fundamentally and are embedded in the tendency to strive for superiority. There are many ways to reach the life goal. One person seeks them through social relation, another through education and science and many by other ways. These different ways, attempting to obtain the goal of life, represent a person's unique style of life, the route by which goal is sought. All aspects of an individual's life and details of his behaviour organize around this style of life.

The formation of lifestyle starts from the age of four or five years and later experiences are assimilated into this style of life. It is, therefore, difficult to change the lifestyle of an individual in later life. The lifestyle is formed on the basis of childhood experiences. Every child tackles his problems in a different way and the ways and means he uses form his style of life. Adler introduced the concept of creative self, which held that the efforts made by an individual to solve his basic problems grow out of the creative efforts of a person. The creative self moulds the personality into a unique structure on the basis of hereditary capabilities and life experiences. He emphasizes the importance of nurture in the development of lifestyle.

Social Interest

Adler lays emphasis on social interests and relations of an individual. His conception of social relations includes co-operation, interpersonal, identification with a group and empathy. Social participation of man means to help the society to attain perfection. Social interest, according to Adler, is latent and inborn characteristic of man. The innate predisposition will not appear and develop spontaneously without the guidance and experiences in social contexts. In neurotics selfish power goals subordinate healthy social interest.

He emphasizes the role of cultural factors which influence the development of personality in a unique pattern.

Evaluation

Adler's theory gives man more prospects to master his life. He emphasized creativity and natural altruism. He emphasized the importance of consciousness and that is why his theory is more understandable and acceptable to the lay person. He introduced the importance of birth order to understand the development of personality.

He had relatively little direct impact on psychoanalytic practice but considerable influence on psychological thought, especially with respect to teachers, doctors and lay persons. He emphasized the importance of social factors in the development of personality and gave a phenomenological view and molar approach to personality. His theory is teleological in nature but other psychologists did not accept his ideas of teleology in the absence of scientific support. His system is highly personalized and subjective. He denied the separation of conscious and unconscious form of mind. His theory leads us to the conclusion that personality is determined neither by the environment in a mechanical way nor by heredity. His important contribution is concept of life-style. His theory has been criticized as being very simple. Adler's point of view does not represent an active system of thought with many proponents or disciples. His theoretical formulations do not represent a clear-cut school of thought.

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1.6 NEO-FREUDIAN APPROACHES

We have discussed in brief the theory of personality of Freud, Jung and Adler in the preceding part of this unit. Now we will describe the personality theory of neo-Freudians who deviate from Freud but explain their theories from psychoanalytic approach. All neo-Freudians have rejected the 'libido' theory and pansexuality of Freud. They emphasize the importance of culture and social experiences in the development of personality. We will in brief mention the approaches of Erich Fromm, Horney, Sullivan and Erikson to understand personality.

Erich Fromm's View

Erich Fromm (b. 1900) is the first psychologist who advocated sociological approach to personality. His central theme is man's feelings of loneliness and isolation. These two feelings have created few needs in the organism.

Basic Nature of Human Being

1. *The need for relatedness.* According to Fromm, man is not in harmony with nature. He has separated himself from the nature and violated laws of nature to gain freedom, but it has led him into trouble. There is a great need to create new relationship between man and nature.

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2. *The need for transcendence*. It means that man has a need to rise above his animal nature. This can be achieved by love and hate.
3. *The need for rootedness*. Man has a desire for roots in society.
4. *The need for identity*. Every man has a need for identity. He should be recognized as a unique personality.
5. *The need for a frame of reference*. All men seek stable relations.

Development of Personality

Fromm has not mentioned any specific developmental stages. He departs from the classical psychoanalysis by arguing that personality can continue to develop during adulthood provided the external influences are quite intense to effect changes in adults. He believed that early childhood experiences are very important in the development of personality, because long period of human dependency serves as a powerful lesson about the need to relate to others. The child gradually learns to distinguish between 'I' and 'not—I' through his contacts with the environment. The child develops individuation. Separation from parents gives birth to feelings of isolation and doubts in the mind of the child.

Karen Horney's View

Karen Horney (1885–1952) like other neo-Freudians emphasized the importance of cultural factors in the development of personality. She markedly differs from the classical theory of personality by viewing man as essentially constructive rather than destructive agent and denying pan-sexualism of Freud. She developed five principles of personality development:

1. *Optimism-positivism*. Horney was a psychoanalyst. She treated a number of patients. She found that man has many positive qualities.
2. *Socio-cultural interaction*. Socio-cultural influences have a great impact on the development of personality.
3. *Character structure*. Horney, in contradiction to classical Freudians, gives importance to genetic factors and socio-cultural influences in the development of character.
4. *Self-concept*. She believes that self-concept is the directing force in life.
5. *Conflict*. Conflicts form an important part of her theory of personality. She describes three major techniques of adjustment with others:
 - (i) Moving toward people.
 - (ii) Moving away.
 - (iii) Moving against.

She was dissatisfied with the theory of Freud as an explanation of neurosis. She emphasized the importance of cultural processes.

Sullivan's View

Harry Stack Sullivan (1892–1949) was another Neo-Freudian who had worked out an extensive system of personality. He emphasized the importance of social and interpersonal forces in the development of personality.

Sullivan, like Freud, was stressing the importance of energy in personality development. To Sullivan, however, this energy appears more often as tension which a person develops; an excess of energy he feels when faced with a choice between two alternatives neither of which is very agreeable.

The child directs his energy towards social relationship with his mother. The early social interaction with the mother forms the basic pattern of personality. Personality, according to him, is interaction of the individual with the society. Personality is a matter of how we see ourselves and how others see us. Early childhood social interaction with the mother is important.

When the child is able to move out of his home, he begins to form social relationship with other children and throughout the developmental stages, his personality development depends on social interaction with others and its influence on the kind of human beings the person is becoming. Future development to a great extent depends on early experiences of the child and how he relates with others along the way depends on the anxiety such interaction brings. If a person feels himself to be a 'bad-me' relationship with others it will create a lot of anxiety because people are likely to reject him.

His system allows that 'bad-me' concept can be created along the path of life.

During juvenile stage, the child's experiences with friends and teachers begin to come in conflict with parental influences. Social acceptance becomes important and the child's reputation becomes an important source of self-esteem or anxiety. During pre-adolescence, a relationship with a friend of the same sex becomes particularly important which forms the basis for the development of love relationship with a person of the opposite sex during adolescence.

He further felt that rules and norms of society are extremely restrictive and these rules forced by society and parents, often lead to personality problems. If an adolescent does not find sufficient self-growth during this period and is not permitted reasonable freedom, then he is likely to become a homosexual, because to him that seems to be a safer relationship than one with the opposite sex.

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Erikson's View

Erikson like other neo-Freudians also emphasizes the importance of social factors in personality development. He developed the concept of 'developmental milestones' which means those functions which vary in stability and persistence throughout life, but which provide regulatory constants at different age levels. He conceived of the constant elements in personality as coming about developmentally in terms of the automatic changes in the child that take place as a result of his growing up. He saw crisis situations occurring at various critical periods in the life of the child. Out of these crises emerge milestone solutions which govern future behaviour. Conflicts, at different stages, are resolved in accordance with the strength and weaknesses of the basic alternatives which are present in the environment.

Erikson is committed to the biological and sexual foundations of personality like Freud, yet he expanded or 'socialized' Freud's schedule of development. He introduced eight stages of development in which he emphasized the importance of interaction between biological and social factors in the development of personality.

Table 1.1 Stages of Psycho-Sexual Development

<i>S. No</i>	<i>Age</i>	<i>Conflict</i>
1. Oral	infancy	Trust vs mistrust
2. Anal	2 years	Autonomy vs shame
3. Genital	3 years to 5 years	Initiative vs guilt
4. Latency	6 years to 12 years	Industry vs inferiority
5. Adolescence	13 years to 18 years	Intentity vs confusion
6. Young	19 to 21	Intimacy vs isolation
7. Adulthood	22 to 50	Creativity vs stagnation
8. Maturity	after 50	Integrity vs despair

From the above table, it is clear that in the process of development of each stage, an individual faces conflicts (crises) that are resolved by accepting and adapting to the changes.

Erikson attempted in his theory to bridge the gap between Freudian theory of psycho-sexual development and present-day knowledge of children's physical and social development. He recognizes three factors representing the personality as somatic or body, ego or self and social or the influence of culture. According to Erikson, personality develops by the relative influences of these three factors. His theory integrates social, anthropological and biological factors into personality. His theory is systematic and comprehensive in its treatment.

1.7 THERAPY AND APPLICATIONS

Jung's and Freud's approach to repression is comparatively different from each other in various aspects. Freud believed that repression contains memories and instincts, which becomes difficult to tolerate by the individual's ego due to their negative nature. Whereas, Jung's idea of repression is opposite to Freud's as it contains positive aspects of personality as well. Jung is of the view that education is a factor that introduces conflict in the individual's life. According to him, education forces the individual to divert from his line of life, developing spontaneously. Finding out this individual line of life or self-realization then forms a major aspect of his system of therapy. As reiterated earlier, Jung's goal of therapy is different from that of Freud. While Freud's therapy is a retrospective analytic understanding of the past, in Jung's analytical psychology, the functional analysis looks at the future in order to find the meaning in the present and future. And therefore, self-realization thus forms an important force in Jung's therapeutic technique. According to Thompson,

“As the Jungian school has developed, process of cure has tended to become rigid and ritualized, and patients are said to go through various stages until they finally reach self-realization. One cannot achieve this until after middle life. The system as it stands today has the quality of a religion. Jung believed that people needed a religious attitude, by which he seems to mean a respect for the dignity of human life, and a belief that it has a meaning. There is a quality of respect for the patient in Jung's thinking too often not indicated in other analytic approaches (168).”

Almost every therapy and approach is critically examined by theorists and experts. Similarly, this approach to therapy too has been subjected to severe criticism. In this, the patient is taken away from reality, and the reality is in return substituted with mystical and semi-religious fantasies of life. This substitution does not root out the patient's problem, but an obsession of something else rules over the patient's problem. This is the classical mechanism of obsessional neurosis (Thompson 169). Jung's contribution includes the emphasis on parent-child relationship, viewing therapy as a patient-analyst mutual interaction and an attitude of respect for the patient and his neurosis. Additionally, Jung's mode of therapy also includes the revealing of the suppressed positive potentialities. This becomes a catalysis in helping to develop the undeveloped aspect of a patient's personality.

Check Your Progress

3. What are the three elements of personality as given by Jung?
4. Name the system developed by Adler.

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1.8 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

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1. The great influence on Freud's life originated from his studies with Charcot in Paris involving hypnosis, hysteria and the sexual basis of mental disturbances.
2. Freud attributed three qualities to mental process: conscious, preconscious and unconscious.
3. According to Jung, the three elements of personality are the conscious ego, the personal unconscious, and the collective unconscious.
4. Adler developed a system of thought called 'Individual Psychology'.

1.9 SUMMARY

- Hard work is crucial to success and achievement. This belief was underscored by Albert Einstein when he said that 'genius is 10% inspiration and 90% perspiration.' This 'will' to do is known as motivation.
- The force of motivation is a dynamic force setting a person into motion or action. The word motivation is derived from motive that is defined as an active form of desire, craving or need that must be satisfied.
- 'Motivation represents an unsatisfied need which creates a state of tension or disequilibrium, causing the individual to move in a goal directed pattern towards restoring a state of equilibrium, by satisfying the need.'
- Psychoanalysis means several things—a system or school of psychology, a theory of personality, a method of therapy and a technique of research.
- Sigmund Freud was born in Austria in 1856 to Jewish parents. He qualified himself as a doctor from Vienna in 1881. Most of his life he stayed in Vienna except before his death on September 23, 1939 at the age of 83 in London.
- The great influence on his life originated from two sources (*a*) his studies with Charcot in Paris involving hypnosis, hysteria and the sexual basis of mental disturbances, (*b*) in 1880 another friend of Freud, Josef Breuer was treating a woman for symptoms of fainting and coughing.
- The treatment of the woman was transferred to Freud who treated her successfully. With this background and experience he developed his own method of psychoanalysis.

- Freud was the first psychologist who systematically attempted to explore the unconscious part of human personality. He proposed a theory that greater part of our personality lies buried in unconscious.
- Freud attributed three qualities to mental process: conscious, preconscious and unconscious.
- Conscious relates to a phenomenon we are aware of at any given moment.
- Freud was the first psychologist who placed great importance on instincts as the determinant of human behaviour. He proposed two instincts: (a) *Eros*, the love and self-preservation, and (b) *Thanatos*, the death instinct, as the ultimate cause of all human activities.
- Psychic energy, according to Freud, comes from libido. It denotes sexual energy. When he revised his theory, which includes two groups of instincts, the libido was defined as the energy of all the life instincts.
- The sexual libido was regarded as the source of primary driving force of the personality. The dynamics of personality is seen as largely governed by the need to gratify the libido.
- Freud organized his personality theory around psycho-sexual stages of development.
- There are psychologists who do not agree on the basic concepts and methodology used by Freud.
- Some psychologists have criticized the theory on the basis of methodological procedure. The data of psychoanalysis consisted the reports of the patients without any verification from other sources.
- C.G. Jung (1875–1961) was a close associate of Freud and worked with him up to 1912.
- According to Jung, there are three elements of personality: the conscious ego, the personal unconscious, and the collective unconscious.
- Adler was also a member of Freudian group. He made valuable contribution to psychoanalysis in its infancy.
- Adler was the first psychoanalyst who de-emphasized the concept of inborn instincts and gave full stress to social factors in the development of personality.
- All neo-Freudians have rejected the ‘libido’ theory and pansexuality of Freud. They emphasize the importance of culture and social experiences in the development of personality.
- Erich Fromm (b. 1900) is the first psychologist who advocated sociological approach to personality. His central theme is man’s feelings of loneliness and isolation.

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- Karen Horney (1885–1952) like other neo-Freudians emphasized the importance of cultural factors in the development of personality.

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1.10 KEY WORDS

- **Libido:** It refers to the energy of the sexual drive as a component of the life instinct.
- **Neurosis:** It is a relatively mild mental illness that is not caused by organic disease, involving symptoms of stress (depression, anxiety, obsessive behaviour, hypochondria) but not a radical loss of touch with reality.
- **Personality:** It is the combination of characteristics or qualities that form an individual's distinctive character.

1.11 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Write a short note on motivation.
2. Give a brief description of the history of psychoanalysis.
3. State the structure of personality as given by Carl Jung. What are its significant concepts?
4. Describe Erich Fromm's theory in brief.

Long Answer Questions

1. Critically analyse the theory of personality as described through Sigmund Freud's approach. Discuss its concept and structure in detail.
2. Examine the advantages and weaknesses of Freud's theory.
3. Who was Adler? What was his contribution to psychoanalysis? Evaluate his theory in detail.
4. What are Neo-Freudian approaches to theory of personality? Discuss any two.

1.12 FURTHER READINGS

Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.

Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.

Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.

Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.

Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

*Psychoanalytical
Perspective*

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UNIT 2 BEHAVIOURISTIC PERSPECTIVE

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Structure

- 2.0 Introduction
- 2.1 Objectives
- 2.2 Learning: Classical Conditioning (Pavlov)
- 2.3 Skinner's Operant Conditioning
- 2.4 Motivation – Drive and incentive theories (Hull)
- 2.5 Theory of Personality: Miller and Dollard
- 2.6 Rotter's Theory
- 2.7 Mowrer's Theory of Personality
 - 2.7.1 Therapeutic Techniques and Applications
- 2.8 Answers to Check Your Progress Questions
- 2.9 Summary
- 2.10 Key Words
- 2.11 Self Assessment Questions and Exercises
- 2.12 Further Readings

2.0 INTRODUCTION

Classical Conditioning can be defined as a reflexive or automatic type of learning. In this type of learning, a stimulus acquires the capacity to evoke a response that was originally evoked by another stimulus. It is fairly evident and researched that several types of learning exist. Associative learning is defined as making a new association between events in the environment. It is the most basic form of learning. Associative learning can be further divided into two types which are classical conditioning (made famous by Ivan Pavlov's experiments with dogs) and operant conditioning. In this unit, you will study about these forms of learning in detail. Many theories by renowned theorists are also explained in this unit in detail.

2.1 OBJECTIVES

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

- Explain Classical Conditioning and its application as given by Pavlov
- Describe Skinner's Operant Conditioning
- Analyse motivation-drive and incentive theories as given by Hull
- Assess Mowrer's, Miller, Dollard's and Rotter's theory of Personality

2.2 LEARNING: CLASSICAL CONDITIONING (PAVLOV)

Classical Conditioning was discovered by a Russian physiologist Ivan P. Pavlov around the turn of the present century. He was basically interested in studying the process of gastric secretion in dogs. He got Nobel Prize on his research on digestive process in the year 1904. During his experimental work on dogs, he accidentally noticed a phenomenon of secretion of saliva in dogs on the sight of the food or sound of caretaker's approaching footsteps. The salivating process, well before the food was put into the mouth of the dog, was called psychic secretion. This psychic secretion was the basis of Classical Conditioning. He classified reflexes into two broad categories: physiological and psychic reflexes. Physiological reflex is an innate process which controls the amount of gastric secretion, depending on the kind and amount of food in the stomach of the organism. They are invariably shown by all animals of a given species. Psychic reflexes (sometimes called conditioned reflexes) occur only as a result of its particular experience. The dogs in Pavlov's experiments secreted saliva on the presentation of sound of a buzzer. In our daily life situations, we experience that sometimes when we go to market, the perception or smell of sweets, cause salivation in our mouth.

Classical Conditioning Experiments

The basic phenomenon of Classical Conditioning is a simple one. A great variety of responses are classically conditionable in our daily life situations. Pavlov restricted his experimental studies to the process of secretion of saliva in dogs. We will describe an experiment from Pavlov to make certain concepts clear. Food in the mouth of the organism produces saliva. When we put food in the mouth of the dog, the dog salivates. This response, on the part of the dog, is natural and unfailling. Food is called the unconditioned stimulus (UCS) and the salivation by the dog is called unconditioned response (UCR). The stimulus, food, is called UCS because it conveys the meaning that the response depends upon no special condition; unconditioned response (UCR) is unlearned and implies no pre-conditions. During his experimentation on dogs, he introduced sound of the bell, a neutral stimulus which evoked no response on the first presentation. This stimulus is called conditioned stimulus (CS). After a number of pairing of CS and UCS, the CS is presented alone to the dog without UCS. If CS succeeds in eliciting the response (saliva) then we call it a conditioned stimulus and the response (salivation) is called a conditioned response. Model of Classical Conditioning is given below:

1. UCS UCR
(Food powder) (Saliva)

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- 2. CS UCR
(Sound of bell) (Saliva)
UCS
(Food powder)

- 3. CS CR
(Sound of bell) (Saliva)

Classical Conditioning may be defined as, “a process in which a neutral stimulus, by pairing with a natural stimulus, acquires all the characteristics of natural stimulus”. In the model given above, the sound of bell was neutral stimulus to elicit the response of salivation but by pairing it a number of times with food, it acquired the characteristics of food and succeeded in eliciting the response of salivation when presented alone at the third stage. Classical Conditioning is sometimes called substitution learning because we substitute a neutral stimulus in place of a natural stimulus. Some modern psychologists have interpreted Classical Conditioning as signal learning. Classical Conditioning as a process reflects the facts that in the first phase of the experiment the response is made unconditionally to the UCS: that is, the response is not conditional to any special training but is natural. Response to the conditioned stimulus (CS), on the other hand, depends on pairing it with unconditioned stimulus (UCS). Conditioned stimulus (CS) is a signal that unconditioned stimulus (UCS) is about to appear.

Another type of conditioning which is called higher order conditioning goes one step further as shown below:

- 1. UCS UCR
(Food) (Saliva)
- 2. CS + UCS CR
(Bell + Food)
- 3. CS1+ CS2 CR
(Bell + Light)
- 4. CS2 CR
(Light) (Saliva)

Pavlov conducted all his experiments under controlled conditions free of distractions in a sound-proof cabin. The theory of conditioning propounded by Pavlov is based on his strong views on mechanistic approach to learning. According to him every action of animal and man depended on machinery. There was no such thing as mind for him. The behaviour must reflect corresponding events in the nervous system of the organism. Explaining the mechanism of conditioning, Frank Restle wrote: “In Pavlov’s thinking, the conditioned stimulus (CS) would set up a weak centre of excitation in the

brain, and the UCS—UCR event would involve a strong centre of activity when one centre of excitation proceeds the other in time, the weaker centre becomes integrated with or drawn into the stronger activity and a pathway of some sort develops in the brain. At that time, presentation of the CS initiates the activity of the UCS-UCR complex and the animal makes the UCR. The theory states that the response originally made to the UCS becomes associated with the CS and what is learned is a CS—CR bond of some kind.”

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Some Phenomena of Classical Conditioning

Pavlov and his associates discovered several phenomena during their experimental studies on the gastric secretion in dogs. We will discuss important findings as reported by him in his classic book on conditioning:

1. *Intensity.* One simple fact is that gastric secretion is the function of kind of food (UCS). There is positive correlation between intensity of the stimulus and magnitude of the response but there is negative correlation between intensity of the stimulus and latency of the response. The more intense the CS, the more rapidly conditioning will proceed and larger the CR will be.

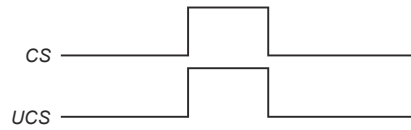
CS	CR
(High intensity)	(High magnitude)
+	
Latency is less	
CS	CR
(Low intensity)	(Low magnitude)
Latency is higher	

It has also been reported that if the CS is too weak, there may be no conditioning.

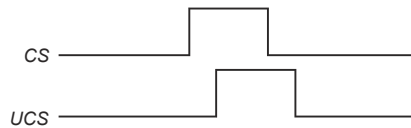
2. *Temporal relationship between CS and UCS.* Classical Conditioning experiments have been conducted in control conditions in psychological laboratory. Psychologists have manipulated systematically the time interval between the CS and UCS. It has been reported that an interval of half a second (.5 sec) between CS and UCS produces the greatest amount of conditioning. If the time interval is shorter than half a second and particularly if the interval is negative so that the CS follows UCS, a dramatic failure of conditioning is typically found. Studies suggest that there may be very different optimum interval for different responses. The following types of temporal relationships have been studied by psychologists for Classical Conditioning:

- (a) *Simultaneous conditioning.* When CS and UCS occur either at the same time or just following the onset of the conditioned stimulus:

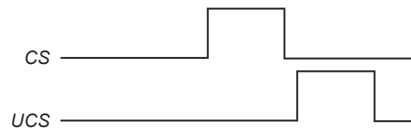
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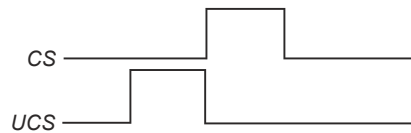
(b) *Delayed conditioning.* Delayed conditioning has been reported as the most widely used temporal relationship. It has been found most effective in establishing conditioning. This is called delayed because the onset of the UCS is delayed following the onset of the CS:



(c) *Trace conditioning.* Trace conditioning is not as effective as delayed conditioning. It is very difficult to establish, particularly when there is a long interval between the CS and UCS:



(d) *Backward conditioning.* Backward conditioning is mostly unsuccessful. Here the UCS is presented prior to CS:



3. *Extinction.* If CS (sound of the bell) is not followed by UCS (food), it means there is no reinforcement. A stage comes when the dog stops to secrete saliva. This process is known as extinction. Extinction has been used in two different ways—extinction as procedure is something the experimenter does and another something which happens to behaviour of the organism. Pavlov reported in his experiments that when the spacing of test trials was increased, the response extinguished rapidly.
4. *Spontaneous recovery.* It has been reported by psychologists that when the dog is brought out of the experimental set-up and again put in the set-up after a lapse of time, the dog responds to conditioned stimulus (CS) by gastric secretion. This process is called spontaneous recovery. The phenomenon of spontaneous recovery explains that there is no complete extinction due to time interval but there is inhibition of CR.

5. *Inhibition*. Inhibition may be defined as a process in which a stimulus inhibits a response that would otherwise occur. Pavlov described two types of inhibitions as given below:

(i) *External inhibition*. It is a process of inhibiting CR by external factors in the environment as noise or any other distraction which may draw the attention of the dog. Let us illustrate it by an example: suppose a dog has been conditioned to a tone to salivate. When we present the tone and a new distracting stimulus (noise) is also presented, we find that occurrence of a novel stimulus inhibits or blocks the CR—the dog does not salivate. It has been further reported that if the novel stimulus is presented on a series of experimental trials, the CR will return to its full strength.

(ii) *Internal inhibition*. It was observed by Pavlov that if complete extinction of CR is obtained by not providing food to the dog and it is then given a period of 24 hours rest, CR will show spontaneous recovery when the dog is tested again. The extinction does not permanently weaken the CR. Pavlov argued that spontaneous recovery proves that CR in extinction does not represent dying of the reflex or any real weakening of the learned S-R connections. It is blocked by some internal inhibitory process. For example, physical health of the organism or pre-occupation with some other activity, etc.

6. *Generalization*. Generalization is a process in which a conditioned response to a stimulus is generalized to a similar category of stimuli. We can understand it with the help of an example. Suppose the dog salivates at the sound of the buzzer of 1000 intensity but if the dog also salivates at the sound of 999 or 1001 intensity, it means the dog has his response to the stimuli generalized. Classical experiment by Watson on Albert is an example of stimulus generalization of fear response.

Pavlov's Contribution

Pavlov was the man who brought a revolution in the field of psychology. His findings generated a lot of enthusiasm among the psychologists in USA to test his findings. His distinct contribution to psychology is that he for the first time showed how it was possible to talk about that how a part of the environment came to be associated with and control an animal's response. He experimentally proved it in non-mental and perfectly in an objective way. Before Pavlov, several philosophers, most notably Locke and Hobbes, had talked about the mind in terms of the association of ideas. Locke compared human mind to 'tabula rasa' on which the environment writes its message in the form of ideas. According to associationism, one idea leads to another because in the past these two ideas occurred together in terms of either time or space. This principle of mental operation is the law of contiguity which

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states that two ideas come to mind at the same time because they have occurred together in the past. But ideas are invisible and psychology as a science deals with the observable and measurable. It was Pavlov for the first time who turned the philosopher's straw (ideas) into the psychologist's gold (response) with the law of contiguity and Classical Conditioning procedures in the laboratory. He explained learning in terms of physiological changes by adopting an objective method of study. Pavlov developed his own theory of brain. Conditioning was accepted as theoretical framework and practical technique of solving a variety of applied problems. The most important contribution made by him is the language of learning and conditioning. Much of the terminology used today was developed by him. Pavlov contributed a lot by developing an objective approach to the process of learning. We can summarize his major finding as: Capacity to learn depends on the type of the nervous system and the repetitions of the activity under reinforcement. For learning to occur, one must have some drive that motivates for action. Transfer of learning is explained as generalization of stimulus.

Application of Classical Conditioning

Most of the experiments on Classical Conditioning have been conducted on animals except a few on children. Classical experiments do not have direct application to classroom learning. The principles of Classical Conditioning can be used in the following areas of animal and human behaviour:

1. *Developing good habits.* Principles of Classical Conditioning can be used for developing good habits in children such as cleanliness, respect for elders, and punctuality, etc.
2. *Breaking of bad habits and elimination of conditioned fear.* All learning is acquired in the social environment. Acquired learning may be deconditioned by using the principles of Classical Conditioning. Principles of Classical Conditioning can be used to deconditioning anxiety and fear in maladjusted children.
3. *Training of the animals.* Animal trainers have been using the principles of Classical Conditioning since a long time without being much aware of the underlying mechanisms.
4. *Use in psychotherapy.* The principles of Classical Conditioning are used in deconditioning emotional fears in mental patients.
5. *Developing positive attitudes.* Classical Conditioning can be used to develop favourable or unfavourable attitude towards learning, teacher and the school.
6. *Teaching alphabets.* The principles of Classical Conditioning are used to teach alphabets and four fundamental principles of arithmetic by using some concrete material. For example, 'A' is associated with apple, counting is taught with the help of beads, etc.

Check Your Progress

1. Who discovered Classical Conditioning?
2. Define Classical Conditioning.

NOTES**2.3 SKINNER'S OPERANT CONDITIONING**

History of Operant Conditioning begins with Professor B.F. Skinner (1904–1990) of Harvard University. When he was a graduate in the department of Psychology of Harvard University, he wrote his dissertation in 1931 entitled *The Concept of the Reflex in the Description of Behaviour*. He made historical survey of previous studies and an operational analysis of the concept of the reflex. He emphasized that the basic datum for the student of behaviour is simply an observed correlation between stimulus-response (S-R) connection. Reflex was adopted by him as the basic unit for analysing behaviour of the organism. He held that it is necessary to study something simpler, *i.e.*, the relationship of a part of behaviour (a response) to a part or modification of the part of environment (stimulus).

B.F. Skinner is a practical psychologist who conducted several experiments on different reflexes in rats and pigeons. Finally, he selected eating as the subject of his experiments because of its simplicity and ease of collecting huge data in short period of time.

He developed his own apparatus and method of observation to study and analyse behaviour in a systematic objective way. After some time, his approach to analyse behaviour became so increasingly visible and viable force within psychology that most of the American psychologists adopted his method of research in their studies.

Two Types of Learning

Skinner found that the procedure he was using to conditioning lever pressuring in rat did not conform to the paradigm used by Pavlov to condition the secretion of saliva in dogs. He recognized two types of conditioning that are produced by different experimental procedures. In Pavlovian conditioning, the reinforcing stimulus was paired with a neutral stimulus that acquired properties of natural stimulus. This procedure was referred by Skinner as type 'S' conditioning or respondent conditioning. He called his own procedure as type 'R' conditioning or Operant Conditioning in which a response occurs spontaneously in the absence of any stimulation with which it may be specifically correlated. He called his procedure Operant Conditioning which can be defined as any learning which is based on response contingent reinforcement and does not involve choice among experimentally defined

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alternatives. The term operant emphasizes the fact that behaviour operates upon the environment to generate its own consequences.

An operant is a response which is emitted by 'S' without any particular forcing stimulus rather than elicited by a reinforcing stimulus (U.C.S.) as in Classical Conditioning. An important distinction between two types of learning is that classically conditioned reflex may have zero strength in the beginning but the operant cannot have zero strength because it has to occur at least once before it can be reinforced. Operant behaviour is external. It can be observed. Respondent behaviour is internal and personal. A corresponding distinction between two types of conditioning has been given at the end of this chapter in detail.

A System of Behaviour

Prof. B.F. Skinner is known for his researches of collecting facts and description of purely empirical relations. He is specifically interested in controlling those responses that seem to occur with no direct stimulation. Such responses are emitted rather than elicited by obvious environmental stimulus.

He was interested in developing a science of behaviour. He had made frequent references to science of behaviour in his writings as the object of his efforts. His published work in the beginning was highly technical and was beyond the understanding of ordinary reader. It was just after the Second World War that he made his findings and theory of behaviour non-technical. During the same period, he was making attempts to spell out some of the implications of principles of Operant Conditioning for the society. He wrote a novel '*Walden Two*', a fictional description of a Utopian society in which education and social regulations were based on positive reinforcement rather than on the technique of aversive control. The same year, he came to Harvard University and taught a course dealing with human behaviour. He wrote a book *Science and Human Behaviour* in 1953. The book summarizes the basic principles arising from the laboratory experiments conducted by him. His findings generated a number of research activities in the USA. By the middle of forties, research using operant methods had become more than one man's enterprise. Skinner at Minnesota and Indiana Universities worked with some talented students on the theory of Operant Conditioning. So huge amount of research data was produced in a short period that it needed some medium of communication to coordinate the findings of research studies conducted at various centres in the Universities. The first conference was convened in Indiana in 1946 on the theme of "Experimental Analysis of Behaviour". Every year annual conference is held to exchange views and to co-ordinate research findings of various centres. Many researches are being conducted on Operant Conditioning in USA and other countries of the world.

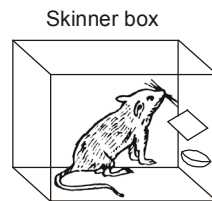
In this unit we will discuss the basic principles of Operant Conditioning and other phenomena related to it. In the last part of this chapter we will

mention some of the areas of education where we can use the principles of Operant Conditioning.

The Operant Experiment

Skinner developed his own method and apparatus to study Operant Conditioning. He developed a simple apparatus, commonly known as Skinner box. This apparatus was devised to study a lot of behaviour in short time in an objective way. A simple response of pressing a lever/bar was chosen as a unit of behaviour. The movements of the rat were electrically recorded and cumulative records of the behaviour of the rat were obtained. The figure of Skinner box explains the mechanism of Operant Conditioning.

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Operations in Operant Conditioning

Several operations are involved in the process of Operant Conditioning. Some of the important operations are briefly described as follows:

1. Shaping (generalization, chaining and habit competition).
2. Extinction.
3. Spontaneous recovery.
4. Concept of reinforcement.

1. Shaping

Shaping is the most important mechanism used in Operant Conditioning. It refers to the judicious use of selective reinforcement to bring certain desirable changes in the behaviour of the organism. The basic process in shaping is successive approximation to the desired behaviour. The experimenter shapes or moulds the behaviour of the organism as clay is moulded by a potter in a definite form of a pot. The most striving and significant contribution of Skinner is the development of a technique to shape the complex behaviour by systematically reinforcing closer approximations to the desired behaviour. Let us explain it with the help of an example. Suppose we wish to shape behaviour of an untrained pigeon in the Skinner box to learn a particular instrumental response, say pecking a particular disk. We may accomplish this shaping of the behaviour of the pigeon through a process of series of successive approximations. Instead of waiting until the pigeon makes a full and correct pecking response, we would reinforce some bit of the pigeon's behaviour that forms part of the chain, the terminal link is the disk pecking

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act. At first we would give the pigeon reinforcement when he merely turns slightly in the direction of the disk. Once a definite tendency to turn toward the disk has been established, we would hold further reinforcement until the pigeon made a definite approach movement toward the disk. By reinforcing those responses that make the pigeon come closer and closer to the disk and then those that bring his beak near it. We would be sure finally to induce the pigeon to peck the disk and we would reinforce this behaviour. It has been reported by Skinner that by using this shaping technique, a hungry pigeon can usually be made to peck at the disk within a period of about three minutes.

Let us understand shaping with the help of an example from human behaviour. Suppose we want to toilet-train a child. Simply putting the child on the toilet is not successful because as soon as the child is placed on the stool, he begins to cry. To shape his behaviour, the child is given a chocolate whenever he is placed on the toilet. It has been observed that successful elimination follows. Other techniques may also be used as mother may read or entertain the child when he is placed on toilet. Chocolate as reinforcer may be withheld following failure. Such type of training may be started from the age of years. It has been reported by psychologists that toilet-training behaviour may be shaped within a period of a fortnight.

Principles involved in shaping. There are three important psychological principles which are involved in the process of successful shaping of behaviour. They are as follows:

- (a) generalization,
- (b) habit competition,
- (c) each segment in the chain must be linked to the other.

These have been described in brief below:

- (a) *Generalization.* Human beings and to some extent animals are capable of generalizing experiences and knowledge acquired in one learning situation to other situations. Had we not been endowed with this unique ability, we would repeat the learning process each time whenever there was slightest alteration in the stimulus. Generalization may be of two types which are mentioned below:

- (i) *Response generalization.* The first psychological principle involved in shaping is response generalization. It refers to the fact that when responses are repeated, they are likely to vary over a range of more or less similar acts. It is important that response generalization does occur, otherwise shaping would be impossible. If the pigeon could only rigidly repeat his previously reinforced response in exactly the same form he would never get closer to the disk (example cited above). Among the responses possible under the principle of response generalization is the one that

allows him to get nearer. This closer approach is then reinforced and the ground-work laid for response generalization to get the pigeon even closer later on.

- (ii) *Stimulus generalization*. The famous study of Albert is an example of stimulus generalization. Stimulus generalization occurs when a particular response elicited by a particular stimulus becomes also elicited by other similar stimuli. There are a number of examples of stimulus generalization as a boy who fears the presence of a tyrant teacher may generalize fear to other teachers.
- (b) *Habit competition*. The second principle in shaping is successful habit competition. At each point of the chain, the correct habit must attain dominance over competing habits. This is accomplished by reinforcing the correct habit alone.
- (c) *Chaining*. The last and the third principle involved is that each segment in the chain must be linked with the succeeding segment. Cues produced by one response must be linked with the next response. Let us illustrate this point with the help of a concrete example. Suppose, we want to train a pigeon to turn around in a circle. This training is started by reinforcing the pigeon for making even a slight movement in the right direction. After this habit is, thus, strengthened, other responses that are part of the chain of responses required in turning around are successively reinforced. By this shaping technique, the response chain of turning around, one that a pigeon normally rarely makes, can be made to occur over and over again at a high rate of frequency.

It has been experimentally proved that secondary reinforcers are more effective in shaping behaviour than primary reinforcers because primary reinforcers interfere with the smooth flowing sequence of responses. As food, the eating movements will confuse the association between the cues produced by one response and the succeeding response. Whenever we want to take the advantage of psychological technique of shaping in training animals and children, we should first develop a strong secondary reinforcing agent.

Needless to mention that by using technique of shaping we can change the behaviour of the organism. We can bring those changes in the behaviour which we want to install in the repertoire of the organism. Effective shaping requires thorough understanding and control of the reinforcing mechanism and effective arrangement of several or many behaviour segments that comprise the learning task.

2. Extinction

It consists simply of withholding the reinforcer when the appropriate response occurs. Withholding of reinforcer means extinction of previously established relationship. Suppose in the Skinner box the rat presses the bar but does not

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get pellet of food. If this is repeatedly done, the bar pressing behaviour of the rat will be extinguished.

3. Spontaneous Recovery

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The phenomenon of spontaneous recovery has almost similar characteristics in Pavlovian and Operant Conditioning (Skinnerian). It refers to the fact that if an organism is removed from the situation for a while after extinction and then returned and again presented with S1, his performance will be better than would be predicted from his performance at the end of preceding extinction. Spontaneous recovery occurs in Operant Conditioning situation and is affected by all those variables which operate in Pavlovian conditioning. Grahm and Gagne in their study showed that the amount of spontaneous recovery of an operant habit is directly related to the length of period since the termination of extinction. Other factors that influence the amount of spontaneous recovery are the spacing of reinforced occurrences of trial training, the spacing of non-reinforced occurrences (extinction trial) and the combination of these two factors. The number of reinforced occurrence of training trials prior to extinction also affects the degree of spontaneous recovery; more reinforcements are associated with greater recovery.

4. The Concept of Reinforcement

The concept of reinforcement is central in Operant Conditioning theory of Skinner. It is a fundamental problem for every learner of theory of Operant Conditioning to study it thoroughly. A reinforcer (a reinforcing stimulus) is any event which changes subsequent behaviour when it follows behaviour in time. Empirically we can define a reinforcer as: "Any environmental event that is programmed as a consequence of a response that can increase the rate of responding, is called a reinforcer." B.F. Skinner used reinforcement as a procedure for controlling behaviour, not a hypothetical device, that produces Stimulus-Response (S-R) connection. Reinforcers are events that raise the rate of responding.

2.4 MOTIVATION – DRIVE AND INCENTIVE THEORIES (HULL)

Clark L Hull (1884–1952), professor of psychology at Yale University, related learning to the needs of an individual or a living being. He held that association between SR is not enough for learning. According to him, some kind of reward or other reinforcement was necessary to establish the stimulus as signal. Hull emphasized the importance of satisfaction of the needs of children. These needs, according to him, could be reduced or satisfied through some reinforcement. Hull's theory, therefore, is known as *need reduction*

or reinforcement theory of learning. It stressed that needs create behaviour and the particular behaviour that reduces need is learnt by the living being.

According to Hull, men and animals are always confronted with such situations in which there is a need: (i) to reinforce SR bonds which have already been formed, (ii) to form entirely new SR bonds. A Conditioned Response occurs when a child feels a need. For instance, when he is hungry or thirsty, there is a response and the need or drive is minimized or satisfied. In a simple way, it can be stated in these words, “Whenever a response (R) follows quickly upon a stimulus (S) and this conjunction of S and R is closely associated in time with the diminution of a need, there will be increased tendency of that SR to recur on later occasions.”

Hull conducted experiments to frame his theory of learning. In a puzzle box, he placed a rat in one apartment. In the box there was another apartment which was divided by a wall. The way to this apartment was through a hole at the top of the dividing wall. An electric current was switched on in the compartment where the rat was. The current was also directed into the dividing wall. To the stimulus of the electric current, the rat responded in a number of ways. It started cutting bars of the box and began to jump in a haphazard manner. In the end, it jumped into the other apartment through the hole. This was repeated till the rat learnt to jump immediately to the other apartment through the hole. This showed that learning took place on account of the law of effect.

In the next experiment, two seconds before the electric current was switched on, a bell was rung. The rat quickly learnt to jump on hearing the bell. It started jumping even before switching of the electric current and only on hearing the bell. This type of learning occurs due to conditioning. It, therefore, followed that according to Hull’s theory, law of effect and law of conditioning were combined.

Important Definitions Concerning Hull’s Theory

Need: Need implies a state of the organism in which a deviation of the organism which is necessary for survival from the optimum of biological conditions, takes place. When a need arises, the organism acts with a view to reduce the need. Hence, sometimes Hull’s theory of learning is called need reduction theory.

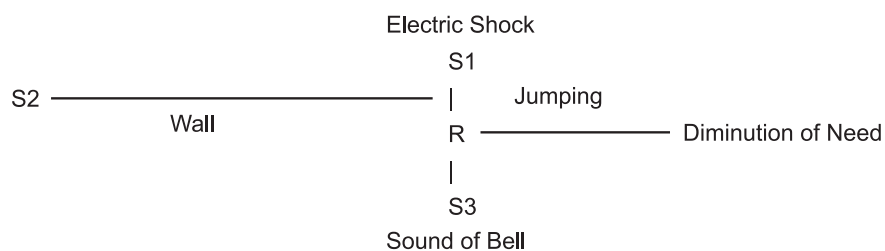


Fig 2.1 Time lag between the Ringing of the Bell and Electric Shock

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Lines denote formation of new bonds or the reinforcement of old ones.

Drive: Drive is a general condition or a common denominator for all primary motivation on account of food, water, sex or any other reason. It is a state of tension resulting from needs.

Reinforcement: According to Hull, reinforcement is as “whenever a reaction (R) takes place in temporal contiguity with an afferent receptor impulse (S) resulting from the impact upon, a receptor or stimulus (S) and this conjunction is followed closely by the diminution in a need, in the tendency of that stimulus on subsequent occasion to evoke that reaction.”

Postulates: Hull stated his theory in the form of sixteen postulates or general rules. Some of the postulates are given here:

1. Postulate of hereditary responses. Hereditary matters in learning. These are unlearned stimulus responses.
2. Postulate of primary and secondary enforcement.
3. Postulate of habit formation.
4. Postulate of reaction potential: It is the strength of the tendency to respond.
5. Postulate of stimulus intensity: The greater the intensity of the stimulus, the greater is the reaction potential for a level of habit strength.
6. Postulate of intensive motivation: The greater the magnitude of the incentive used in reinforcement, the greater is the reaction potential.
7. Postulate of stimulus generalization: This postulate means that there are two or more like stimuli, which can evoke exactly the same response from the organism as was evoked by the original stimulus.

Educational Implications of Hull’s Theory of Learning

Hull’s theory pointed out that the curriculum to be followed should be based on the need of students and that individual differences of students should be taken care of.

According to it, a reasonable anxiety should be created in students as students with mild anxiety are easier to teach. The drive in them creates restlessness and in order to release tension, a series of actions would be needed. Too much or too little of anxiety is very harmful for learning. In the course of action, the students encounter several stimuli. They make a continuous series of responses. When these stimuli occur with a response, there is a chance for an association and the association takes place only if it is followed by reward or punishment. Rewards and punishment both reduce tension of the students.

Hull’s theory made drive a major factor in learning. Therefore, all learning should be as stimulating as possible. Students must be motivated as much as possible.

Hull's theory pointed out the importance of adequate drill and practice in learning.

It also emphasized the gradual development of 'artificial incentives'. In all learning situations, especially in the case of younger children, artificial incentives work wonders.

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2.5 THEORY OF PERSONALITY: MILLER AND DOLLARD

Dollard and Miller developed a theory of personality at the Institute of Human Relations at Yale University. Their theory is called S-R Learning or Reinforcement Theory of Personality. They borrowed basic ideas from psychoanalysis and converted them into Hull's reinforcement theory. According to them, "learning theory in its simplest form, is the study of circumstances under which a response and a (cue) stimulus become connected. Response and cue are bound together in such a way that the appearance of the cue evokes the response. Learning takes place according to definite psychological principles. Practice does not make always perfect. The connection between cue and response can be strengthened only under certain conditions. The learner must be driven to make the response and rewarded for having responded in the presence of the cue. This may be expressed in a homely way by saying that in order to learn, one must want something, notice something, do something and get something. Stated more exactly, these factors are drive, cue, response and reward. These elements in the learning process have been carefully explored and further complexities have been discovered. Learning theory has become a firmly knit body of principles which are useful in describing human behaviour."

Theory of learning developed by Dollard and Miller is acclaimed to be the most significant contribution to psychology. The first reason is that they tried to unify two different approaches in their theory—Hulltan and Psychoanalytic. There is much common in psychoanalysis and learning theory developed by them. Secondly, it emerged out of empirical studies conducted in laboratory. They attempted to reformulate certain principles of psychoanalysis into terms that better lend to experimentation. The last is that they have developed a theory of learning to explain the wide range of behaviour involved in both abnormal and normal personality development.

Fundamentals of Learning

According to Dollard and Miller, there are four fundamental factors which are important in the process of learning. They are:

1. Drive.....Motivation
2. Cue.....Stimulus

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3. Response.....Action

4. Reinforcement..... Reward.

1. *Drive*. It is any stimulus (external or internal) which initiates or impels action on the part of the organism. Drives differ in their strength of activating behaviour. There is a positive correlation between driving function and stimulus. The stronger the drive, the more vigorous or persistent will be the behaviour it energizes. The stronger the stimulus in intensity, the greater is its drive function. When some response is followed by reinforcement (reward) the connection between cue (stimulus) and response will be strengthened, and the same response is likely to occur. The strengthening of connection between S-R is the central problem of learning which depends on the reinforcement. The strength of S-R habit increases with the number of occasions on which the S-R have occurred together. Drives are classified into two broad categories as follows:

(a) *Primary or innate drives*. They originate from the physiological needs of the individual (sex, thirst, hunger and oxygen, etc.) and are essential for the survival of the organism. They are more forceful in motivating the organism for action.

(b) *Secondary or acquired drives*. They are not innate but are acquired through the process of social learning. They develop in close association with primary drives. These drives include approval, money, affection, prestige and achievement, etc. They are also called social motives.

2. *Cue*. A cue is a stimulus that guides the response of the organism by 'directing or determining exact nature of response. According to learning theory of personality, cues (stimuli) are basic in learning. They may be internal or external and produce responses from the learner. Cues are distinctive in nature and are differentiated by the learners in different situations in the environment. The learning ability of an individual depends on the perception of the distinctive characteristics of cues. Cues determine when an organism will respond, where he will respond and which responses he will make.

3. *Response*. Drive state created by physiological needs impels the organism for action. Action is response which is basic for learning. The production of appropriate response is a crucial stage in learning. If the organism takes no action, no learning will take place.

4. *Reinforcement*. Reinforcement is an important ingredient in the process of establishing S-R habits. Reinforcement takes place in the presence of a drive. It may be used in different schedules to mould the behaviour of the organism. Immediate reinforcement after the response is more effective than delayed reinforcement, because immediate reinforcement

helps in establishing the reward with an act that an organism must learn to perform. If a child is immediately rewarded after a correct response, then he would be able to identify the reward with the act that he must learn to perform. We use this technique of reinforcement in the behaviour modification of animals and children. Reinforcement needs a detailed treatment. We have discussed in detail this topic in the chapter on learning.

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Further Characteristics of Learning

Dollard and Miller, in addition to the four fundamental principles of learning referred above, identified a number of other principles which are essential in the process of learning.

Extinction. Extinction is a process of weakening or eliminating previously learned responses. We have read that reinforcement strengthens the connection between stimulus and response. When a response is not rewarded, the connection between cue (stimulus) and response is weakened. Response made in absence of reinforcement decreases in strength. We can say that extinction is the process of elimination of responses. The process of extinction does not completely eliminate the responses. Sometimes an extinguished habit reappears after an interval of time which is called spontaneous recovery.

Stimulus generalization. Stimulus generalization is a process in which responses learned from one situation are transferred to a variety of similar situations. The amount of stimulus generalization depends on the similarity between two situations; greater the similarity, greater the stimulus generalization and less similar the situations, the less will be stimulus generalization.

Stimulus generalization is very important in learning because through this process the responses learned from the particular cues spread to cues that are similar. Similarity of cues tends to elicit correct responses in two different situations. The function of degree of similarity is called gradient of generalization.

Habit hierarchy of response. It is another concept that assumes that for any stimulus situation, an organism has the potential of making any number of responses. These responses may be ordered in terms of their probability of occurrence in the stimulus situation. Early years of life are important because during these years the child establishes response hierarchies for a great variety of stimulus contexts.

Our habitual works which have been learned in one situation generalize from situation to situation and can occur in a variety of contexts.

If a child of 10 years learns aggression in home environment, he can act aggressively in school or in the neighbourhood. Attitudes towards parents

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may generalize to other persons such as teachers and friends. Most of our behaviour develops on the principles of generalization.

The stronger the drive, the more stimulus generalization will take place. The more similar the cue (stimulus) is to the original, the more likely will a response generalize to it.

Discrimination. Discrimination is an important process in learning. In this process learned responses are made to a particular and appropriate cue in the environment and not to others. The child discriminates his feeding bottle from other articles in the home. The child learns to discriminate among various objects of his environment such as book, table and chair, etc.

Dollard and Miller do not emphasize the importance of any static structure in personality. They emphasize habit formation through learning as the key concept in their personality theory. Habits are formed by S-R connections through learning. Habits are not static but change on the basis of experiences the individual has in his social environment. They have recognized the importance of motives such as anxiety in the dynamics of personality development. Effect of drive is complicated by a variety of acquired drives. In the process of development several drives develop in social contexts. These learned drives, acquired on the basis of the primary drives, represent elaboration of them, and serve as a facade behind which the functions of the underlying innate drives are hidden. Anxiety, shame and desire to please impel most of our actions in life. Reinforcement comes not from primary rewards but by neutral events that have acquired reward value. Mother's smile becomes a powerful acquired reward for the infant.

They describe the development of personality from simple drives to complex functions. The child at birth is equipped with two types of basic factors: reflexes and innate hierarchies of response and a set of primary drives, which are internal stimuli of great strength and are linked with known physiological processes which impel him to action but do not direct activity. The theory of development includes:

- (a) The development of new responses.
- (b) The extension of present responses to new stimuli.
- (c) The development of new or derived motives.
- (d) The extinction or elimination of existing association between S-R.

Critique and Evaluation

S-R learning theory approach to personality is distinct from all other approaches. It has greatly influenced all areas of psychology by introducing strictly objective approach to explain human behaviour. It emerged out of empirical studies conducted in laboratory on animals on scientific lines. It emphasizes the role of learning from infancy onwards in the development

of personality. It rejected the concept of ego and the superego developed by Freud. Undoubtedly, S-R learning theory is a scientific and objective approach to understand personality development. It has been generally criticized on the following points. *First*, some psychologists criticize this theory that learning principles have been derived from researches conducted on rats under controlled conditions. There is doubt as regards their applicability on human beings. *Secondly*, this theory oversimplifies human learning. It avoids complex human learning. Psychologists studied simple behaviour in the form of S-R connections. They neglected the importance of cognitive behaviour. Intuitive and subjective aspects have been completely ignored. Thus, the theory tends to neglect important areas of human behaviour. *Thirdly*, they overemphasized the importance of environmental determinants of personality and neglected the genetic and internal factors. Their main objective is to study S-R connections. *Fourthly*, the theory says very little about the structure or the process of acquisition of personality. *Fifthly*, it is accused of being molecular, atomistic and fragmented approach. Behaviour cannot be predicted on the basis of S-R learning theory of personality. Cognitive processes of language and thought have not been explained adequately by S-R learning theory of personality.

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2.6 ROTTER'S THEORY

J.B. Rotter was born in 1916. He is a leading psychologist and comes under social learning theorists who emphasize the importance of the interaction of the individual with his meaningful environment. Rotter emphasized that environment only is important which is significant to the person under study. According to him, personality is stable and independent. He also assumes that personality can change with new experience. Behaviour is goal-directed and movement towards the goal is governed by two variables: reinforcement as well as the individual's expectancy that the goal can be achieved. He developed the expectancy-reinforcement model of personality.

Basic Concepts

Rotter's Expectancy-Reinforcement model is based on four basic concepts which enable to predict behaviour. The concepts are briefly described as follows:

1. *Behavioural potential (B.P.)*. It refers to the potential for a behaviour to occur in a specific situation as a function of its relationship to a specific set of reinforcements. For example, Ram wants to know his behavioural potential for studying. He would ask in which class (*specific situation*) and then ask how important it is to get an 'A' grade (*specific reinforcement*). Since human behaviour is a complex phenomenon, so to increase the predictability, he introduced other concepts.

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2. *Expectancy (E)*. Another important concept introduced by Rotter is expectancy which means the probability held by the individual that a particular reinforcement ('A' grade) will follow a specific behaviour (studying) in a specific situation (Psychology class). This expectancy is to be independent of the value of the reinforcement. That is, there may be no relationship between how valuable a reinforcement is and how confident we are in obtaining of it.
3. *Reinforcement value (RV)*. This refers to one's personal preference for one reinforcement over the other reinforcements if the possibility of occurrence for each reinforcement is equal.
4. *Psychological situation (S)*. It refers to any part of the situation to which the individual is responding in terms of his subjective reaction to that situation. The essential component of this concept is the meaning that the individual gives to the situation. According to Rotter, behaviour of the organism occurs in a situation and is influenced by his perception of that situation.

Predictive Formulae

The four basic concepts described above are related in the following manner:

$$BP_x, SI, ra = f(Ex, va, SI \times RVa, SI)$$

The formula may be explained as follows:

BP = Behaviour potential

x = Behaviour

SI = Situation

ra = Reinforcement

is a f = function of the expectancy (*E*) of the occurrence of reinforcement *a* (*ra*) following behaviour *x* is situation, $I(SI)$ and the value of the reinforcement *a* (*ra*) in situation $I(SI)$. According to Rotter, this formula will allow one to predict whether or not a specific behaviour is likely to occur in a particular situation.

To predict less specific behaviour, the following formula has been used:

$$NP = f(FM \text{ and } NV)$$

The explanation of the formula is as follows:

The potential for the occurrence of a set of behaviours that lead to the satisfaction of some need (need potential, *NP*) is a function (f) of the average levels of expectancies that these behaviours may lead to these reinforcements (Freedom of movement, *FM*) and the value of these reinforcements (*NV*).

Rotter proposes six general sets of behaviours which he refers to as needs: 1. recognition—status (need to excel); 2. dominance (need to control); 3. independence (need to make one's own decisions); 4. protection—

dependency (need to provide protection and security); 5. love and affection (need for acceptance); and 6. physical comfort (need for avoidance of pain and desire for bodily pleasures).

Minimal Goal Level and Generalized Expectancies

There are two other concepts which are important to understand Rotter's Expectancy-Reinforcement theory. They are: minimal goal level and generalized expectancies. According to him, minimal goal level is the lowest goal in a continuum of potential reinforcements for some life situation which will be perceived by the person as satisfactory to him. This minimum goal level is the point at which positive reinforcements change to a negative level. Minimum goal level differs from individual to individual as for example for some students 'A' may be a minimal goal while for others 'C' may be minimal goal. Generalized expectancies are one of the most important concepts in Rotter's theory. It refers to the tendency for people to categorize other people, behaviour, stimuli, and so on and then develop expectations about these categories rather than about each person, behaviour or stimulus. For instance, if you create a category of 'all slender people', you may develop a generalized expectancy that they all are 'agile'. In this case, you have generalized your expectancy from one slender person to all slender people.

There are two types of generalized expectancies in his theory: Internal versus External (I-E) control for reinforcements and interpersonal trust. I-E refers to differences in the belief that what happens to you is the result of your own behaviour attitudes (internal control) versus the result of luck, fate, chance or powerful others (external control). Obviously, if you expect that your destiny is controlled by luck and chance, you are going to behave very differently than a person who believes that his destiny is controlled by his behaviour. I-E is also referred to as locus of control.

Interpersonal trust refers to differences in the degree which people believe in other people and expect others to be honest and forthright. Interpersonal trust influences our behaviour in social interaction.

Conclusions and Implications

Though Learning Theory has had a long history beginning with Pavlov at the turn of the present century, it gained international prominence in the third decade of the present century. It was limited to conditioning. Rotter was the first psychologist who attempted to bridge traditional learning theory in terms of reinforcement with subjective psychological concepts like expectancy and need value, in order to be able to predict and to understand complex psychological phenomena. He took learning theory out of the conditioning paradigm and made it viable for understanding behaviours like trust, level of aspiration, perceived control, psychotherapy and achievement.

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His theory has generated a great amount of enthusiasm among the psychologists—who have conducted a number of research studies to test the applicability of his concepts in life situations.

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2.7 MOWRER'S THEORY OF PERSONALITY

Till the middle of the 20th century, behaviourists were so impressed by learning theories that they viewed Pavlov's and Skinner's laws as universal as Newton's law of gravitation. From the position of militant environmentalists (Seligman, 1993) they stated that all behaviours are learned under influences from the environment. However, as with the changing times and due to the disagreement among theorists, learning is now viewed from different perspectives. This gave rise to a third type of learning.

As the existing learning theories were criticized, it was stressed that neither classical or respondent conditioning nor operant or instrumental conditioning are able to explain from their positions the whole process of conditioning, especially avoidance conditioning. Representatives of operant conditioning outline this process by negative reinforcement which is studied during escape and avoidance conditioning. Laboratory experiments confirmed that escape avoidance is relatively simple. An animal learns to press a bar and thus switch off an electrical shock. Avoidance conditioning is more complex and from many aspects more important because it is „relevant for some aspects of human behaviour” (Gross, 1992, p. 145). However, if operant conditioning will not overstep its boundaries and will remain focused only on observable behaviours it will prevent them to explain the whole process fully. Several theories tackled this problem. However, according to Walker (1984), only one theory succeeded in resolving it by implementing covert behaviour into the process of conditioning and thus explaining not only avoidance conditioning but also the role of avoidance in human pathology. It was a two - factor theory.

Two – factor theory

It is stated that if we observe someone, there appears a change in our behaviour. This means that to learn a new behaviour we do not need practice, overt responses, or reinforcement. It comes through observation and we know it before we perform it. This conclusion was reached not only by Albert Bandura but also by Hobard Mowrer (1960) who introduced two-factor theory. This theory was focused on the interplay of classical and operational contingencies, and on this basis explained avoidance conditioning.

H. Mowrer was of the belief that in some situations it is important to sometimes overstep the boundaries of what is observable, and analyze the data which is not directly observable because stimuli from environment do not trigger the overt behaviour directly, but they do it through mediators

(thoughts and emotions). Contrary to this, overt behaviour, emotions and thoughts are not directly observable and measurable. It is possible only to assume about them on the basis of overt behaviour observations. Therefore, thoughts and emotions are termed as covert behaviour or covert responses and function on the same principles as overt behaviour.

Mowrer's experiments with animals represent a good analogy with human psychopathology (Stampf, 1987). In an experiment, rats got an electrical shock instantly after the sound of a buzzer. This buzzer was a warning stimulus (unconditioned stimulus, US). It aroused pain and an emotional response of fear or anxiety (unconditioned reaction, UR). After a few associations, a fear originally triggered by a shock was triggered by a buzzer. Even after the shocks were stopped, the rat responded by fear on originally neutral stimulus (a buzzer). A buzzer, in this case a conditioned stimulus (CS) arouse an emotional response of fear. Up until now, everything was processed in the framework of classical conditioning. At this point, Mowrer crossed the boundary and penetrated into the territory of operant conditioning. On the basis of operant conditioning, an animal learned to react differently. It jumped over a barrier and escaped, to avoid a shock and to reduce a fear. This behaviour was negatively reinforced through the avoidance of shock before it acted. An animal learned to avoid a neutral CS (a buzzer). The process is called avoidance conditioning. In essence, let us have a look at what happened:

1. An animal learns to fear a buzzer, because it is paired with a shock, based on the classical conditioning principles. This conditioned fear is called anxiety.
2. An animal learns to avoid a source of fear, based on the operant conditioning principles. It runs away in order to avoid shock. Because a buzzer is paired with a shock, an animal learns to escape from a harmless stimulus, i.e., from a buzzer. It is called conditioned avoidance. Escape weakens fear and a response is reinforced by consequences.

Mowrer's theory became a basis for various therapeutic interventions. Initially, his theory changed only a fractional view of the learning process. However, later it changed the view on psychopathology. This fundamental breakthrough promoted H. Mowrer into a position of a leading researcher and theoretician in this field of study.

2.7.1 Therapeutic Techniques and Applications

An aroused state due to an unfulfilled physiological need is called a drive. A need is a deprivation which will energize the drive to reduce or eliminate the deprivation. According to this theory, there are two kinds of drives, viz., primary drive and secondary drive. Primary drives involve survival need of the body, such as hunger and thirst, and secondary drives—also known as

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acquired drive—are learned through experience, such as need for money, social approval, etc. The body's need for food arouses our hunger drive. Hunger motivates us to do something, for example, to go out for food to reduce the drive and satisfy the need. Hence, drive is a psychological state whereas need involves a physiological state.

The goal of drive reduction is homeostasis, the body's tendency to maintain an equilibrium or steady state. Literally, hundreds of biological states—temperature, blood sugar level, potassium and sodium levels, oxygen, and so on—must be maintained within a certain range in our bodies. These physiological changes occur automatically to keep our body in an optimal state of functioning.

Psychologists believe that people behave in different manner as sometime motivation and need increases the drive rather than reducing it. Hence, we cannot get the complete picture of motivation on the basis of drive reduction theory. For example, people might skip meals in an effort to lose weight, which can increase their hunger drive rather than reduce it.

Check Your Progress

3. What is Skinner box?
4. State one postulate of Hull's theory.

2.8 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Classical Conditioning was discovered by a Russian physiologist, Ivan P. Pavlov.
2. Classical Conditioning may be defined as, “a process in which a neutral stimulus, by pairing with a natural stimulus, acquires all the characteristics of natural stimulus”.
3. Skinner developed his own method and apparatus to study Operant Conditioning; this apparatus is called Skinner box.
4. Hull's postulate of hereditary responses states that hereditary matters in learning. These are unlearned stimulus responses.

2.9 SUMMARY

- Classical Conditioning was discovered by a Russian physiologist Ivan P. Pavlov around the turn of the present century. He was basically interested in studying the process of gastric secretion in dogs.

- During his experimental work on dogs, he accidentally noticed a phenomenon of secretion of saliva in dogs on the sight of the food or sound of caretaker's approaching footsteps.
- The salivating process, well before the food was put into the mouth of the dog, was called psychic secretion. This psychic secretion was the basis of Classical Conditioning.
- Classical Conditioning may be defined as, "a process in which a neutral stimulus, by pairing with a natural stimulus, acquires all the characteristics of natural stimulus".
- Pavlov conducted all his experiments under controlled conditions free of distractions in a sound-proof cabin.
- Pavlov was the man who brought a revolution in the field of psychology. His distinct contribution to psychology is that he for the first time showed how it was possible to talk about that how a part of the environment came to be associated with and control an animal's response.
- According to associationism, one idea leads to another because in the past these two ideas occurred together in terms of either time or space.
- History of Operant Conditioning begins with Professor B.F. Skinner (1904–1990) of Harvard University.
- When he was a graduate in the department of Psychology of Harvard University, he wrote his dissertation in 1931 entitled *The Concept of the Reflex in the Description of Behaviour*.
- Skinner found that the procedure he was using to conditioning lever pressuring in rat did not conform to the paradigm used by Pavlov to condition the secretion of saliva in dogs.
- Clark L Hull (1884–1952), professor of psychology at Yale University, related learning to the needs of an individual or a living being. He held that association between SR is not enough for learning.
- Hull emphasized the importance of satisfaction of the needs of children. These needs, according to him, could be reduced or satisfied through some reinforcement. Hull's theory, therefore, is known as *need reduction* or reinforcement theory of learning.
- Hull's theory pointed out that the curriculum to be followed should be based on the need of students and that individual differences of students should be taken care of.
- Dollard and Miller developed a theory of personality at the Institute of Human Relations at Yale University. Their theory is called S-R Learning or Reinforcement Theory of Personality.

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- Theory of learning developed by Dollard and Miller is acclaimed to be the most significant contribution to psychology. The first reason is that they tried to unify two different approaches in their theory—Hullian and Psychoanalytic.
- J.B. Rotter was born in 1916. He is a leading psychologist and comes under social learning theorists who emphasize the importance of the interaction of the individual with his meaningful environment.
- Rotter emphasized that environment only is important which is significant to the person under study. According to him, personality is stable and independent.
- There are two other concepts which are important to understand Rotter's Expectancy-Reinforcement theory. They are: minimal goal level and generalized expectancies.
- Hobard Mowrer (1960) introduced two-factor theory focused on the interplay of classical and operational contingencies, and on this basis explained avoidance conditioning.
- An aroused state due to an unfulfilled physiological need is called a drive. A need is a deprivation which will energize the drive to reduce or eliminate the deprivation.
- Psychologists believe that people behave in different manner as sometime motivation and need increases the drive rather than reducing it.

2.10 KEY WORDS

- **Psychotherapy:** It refers to the treatment of mental disorder by psychological rather than medical means.
- **Stimulus:** It refers to a thing or event that evokes a specific functional reaction in an organ or tissue.
- **Habit:** It refers to a settled or regular tendency or practice, especially one that is hard to give up.

2.11 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. State some Classical Conditioning experiments conducted by Pavlov.
2. Write a short note on application of Classical Conditioning.
3. Briefly state Clark L Hull's theory of learning.

4. Assess Dollard and Miller's theory of personality in brief.
5. Briefly discuss Rotter's minimal goal level and generalized expectancies.

Long Answer Questions

1. Explain Classical Conditioning as discovered by Ivan P. Pavlov. What were his findings?
2. Analyse Skinner's Operant Conditioning. What are the important operations involved in the process of Operant Conditioning?
3. Who was J.B. Rotter? What are the concepts of his Expectancy-Reinforcement model?
4. Explain Mowrer's theory of personality.

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2.12 FURTHER READINGS

- Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.
- Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.
- Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.
- Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.
- Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

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UNIT 3 HUMANISTIC AND EXISTENTIAL PERSPECTIVES

Structure

- 3.0 Introduction
- 3.1 Objectives
- 3.2 Theories of Motivation
- 3.3 Answers to Check Your Progress Questions
- 3.4 Summary
- 3.5 Key Words
- 3.6 Self Assessment Questions and Exercises
- 3.7 Further Readings

3.0 INTRODUCTION

There are basically two types of theories that relate to and define the motivational processes. These are the “content theories” that attempt to determine and specify drives and needs that motivate people to work and “process theories” that attempt to identify the variables that go into motivation and their relationship with each other. These theories are described in greater detail in this Unit.

The unit provides an in-depth description of the various theories given by renowned theorists such as Maslow, McGregor, Clayton Alderfer and McClelland. The theories are also compared simultaneously to better understand their impact.

3.1 OBJECTIVES

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

- Explain McGregor’s Theory X and Theory Y
- Describe Maslow’s Needs Hierarchy Theory
- Analyse Clayton Alderfer’s ERG Theory
- Assess McClelland’s Theory of Needs

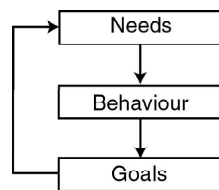
3.2 THEORIES OF MOTIVATION

In this section, you will study about the various content theories of work motivation in detail.

The Content Theories of Work Motivation

The content theories have been developed to explain the nature of motivation in terms of types of need that people experience. They attempt to focus on factors within a person that initiate and direct a certain type of behaviour or check certain other type of behaviour. The basic idea underlying such theories is that people have certain fundamental needs, both physiological and psychological in nature, and that they are motivated to engage in activities that would satisfy these needs. Thus, the nature of needs establishes the nature of motivation that results in a specific behaviour aimed at reaching the goal of satisfying such needs.

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Some of the more important content theories are:

McGregor's Theory X and Theory Y

Douglas McGregor (1906–64) was a professor of industrial management at Massachusetts Institute of Technology (MIT) for most part of his career. His contribution to management thought lies in his proposal that a manager's assumptions about the role of employees determines his behaviour towards them. According to him, the classical organization - with its highly specialized jobs, centralized decision-making and communication from top downwards through the chain of command was not just a product of the need for productivity and efficiency, but instead it was a reflection of certain basic managerial assumptions about human nature. These assumptions, that McGregor somewhat arbitrarily classified were designated as Theory X. Theory X identified the classical approach to management based upon the ideas generated in the late 1800s and early 1900s, and was primarily based upon the assumption about economic rationality of all employees. This evolved around the classical assumption of Adam Smith that people are motivated by economic incentives and they will rationally consider opportunities that provide for them the greatest economic gain. To the classical thinkers, an efficiently designed job, efficiency centred organization and proper monetary incentives to workers were the proper tools of motivation.

This approach was effective because it was a product of its times. In the late nineteenth century and early twentieth century, technology change was relatively slow and predictable, labour was abundant, competitors were known and productivity was the main focus.

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This approach was based on the following assumptions.

Theory X Assumptions

1. Most people dislike work and avoid it whenever possible.
2. They need to be directed, controlled and threatened with punishment in order to move them to work and achieve organizational goals.
3. An average person is lazy, shuns responsibility, prefers to be directed, has little ambition and is only concerned with his own security.
4. Most people avoid leading and want to be led and supervised. They are unwilling to accept responsibility.

McGregor believed that managers who hold Theory X assumptions are likely to treat workers accordingly. These managers practice an autocratic management style and may use the threat of punishment to induce employee productivity. The communication is primarily directed downwards and the environment is characterized by minimal manager-employee interaction.

In contrast, Theory Y emphasizes management through employee input and delegation of authority. According to Theory Y, managers make the following assumptions.

Theory Y Assumptions

1. Work is natural to most people and they enjoy the physical and mental effort involved in working, similar to rest or play.
2. Commitment to goals and objectives of the organization is also a natural state of behaviour for most individuals.
3. They will exercise self-direction and self-control in pursuit and achievement of organizational goals.
4. Commitment to goals and objectives is a function of rewards available, especially the rewards of appreciation and recognition.
5. Most people have the capacity for innovation and creativity for solving organizational problems.
6. Many individuals seek leadership roles in preference to the security of being led.

Managers who hold Theory Y assumptions treat their workers as responsible persons and give them more latitude in performing their tasks. Communication is multidimensional and managers interact frequently with employees. These managers encourage innovation and creativity, minimize the use of supervision and controls and redesign the work to make it more interesting and satisfying with regard to higher level needs of workers such as self-esteem and self-actualization. They integrate individual goals and

organizational goals so that with commitment and dedication, both goals are achieved at the same time.

Compared to Theory X, Theory Y has the greater potential to develop positive job relationships and motivate employee performance. It must be understood, however, that in some situations where workers do require close supervision and greater controls, Theory X assumptions are more effective in achieving organizational goals.

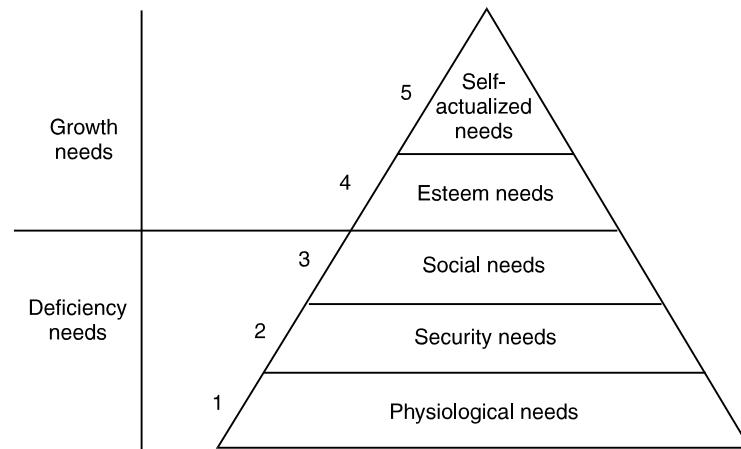
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Maslow's Model

Maslow's "needs hierarchy theory" is probably the most widely used theory of motivation in organizations. Abraham Maslow suggested that people have a complex set of exceptionally strong needs and the behaviour of individuals at a particular moment is usually determined by their strongest need. He developed his model of human motivation in 1943, based upon his own clinical experience and formulated his theory of hierarchical needs by asking the same question, "what is it that makes people behave the way they do?" and made a list of answers from which he developed a pattern. His theory is based upon two assumptions. First that human beings have many needs that are different in nature ranging from the biological needs at the lower level that is the level of survival, to psychological needs at the upper extreme that is the level of growth. Second that these needs occur in an order of hierarchy so that lower level needs must be satisfied before higher level needs arise or become motivators. Mahatma Gandhi, the Indian leader, once remarked that "even God cannot talk to a hungry man except in terms of food." Similarly, there is a quotation from the Holy Guru Granth Sahib, the holy scripture of Sikhs in India that quotes a holy man saying to God, "Take your rosary beads away. I cannot worship and meditate on you when I am hungry". This means that if the people's basic needs that are biological in nature are unsatisfied, than their total attention will be focused upon these needs and it will not be possible to communicate with them about other matters.

This model of hierarchical needs explains human behaviour in a more dynamic and realistic manner and is primarily based upon people's inner states as a basis for motivation and the environmental conditions do not play any significant role. Maslow postulates five basic needs arranged in successive levels. These needs continue to change resulting in change in goals and activities. These five needs are arranged in the form as shown. The first three levels of needs at the bottom are known as "deficiency" needs and they must be satisfied in order to ensure the individual's very existence and security and make him fundamentally comfortable. The top two sets of needs are termed "growth" needs because they are concerned with personal growth, development and realization of one's potential.

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These needs are explained in detail as follows.

Physiological Needs

The physiological needs form the foundation of the hierarchy and tend to have the highest strength in terms of motivation. These are primarily the needs arising out of physiological or biological tension and they are there to sustain life itself and include the basic needs for food, water, shelter and sex. Sexual need and desire is not to be confused with that which is at the third level. Once these basic needs are satisfied to the degree needed for the sufficient and comfortable operation of the body, then the other levels of needs become important and start acting as motivators.

Security and Safety Needs

Once the physiological needs are gratified, the safety and security needs become predominant. These are the needs for self-preservation as against physiological needs that are for survival. These needs include those of security, stability, freedom from anxiety and a structured and ordered environment. These safety and security needs are really provisions against deprivation of satisfaction of physiological needs in the future. It also involves a sense of protection against threats and danger of losing the job in the future. In a civilized society such as ours, a person is usually protected from threats of violence or extremes in climate or fear of material safety, so that the safety and security needs dwell upon economic and job security, life and medical insurance and other protective measures to safeguard the satisfaction of physiological needs in the future that may be unpredictable.

Love and Social Needs

After the needs of the body and security are satisfied, a sense of belonging and acceptance becomes prominent in motivating behaviour. These needs include the needs for love, friendship, affection, and social interaction. We look for an environment where we are understood, respected and wanted. That is one

reason for “polarization” where people of similar background and beliefs tend to group together. “Love thy neighbour” has perhaps a profound meaning.

Esteem Needs

The need for esteem is to attain recognition from others that would induce a feeling of self-worth and self-confidence in the individual. It is an urge for achievement, prestige, status and power. Self-respect is the internal recognition. The respect from others is the external recognition and an appreciation of one’s individuality as well as his contribution. This would result in self-confidence, independence, status, reputation and prestige. People then would begin to feel that they are useful and have some positive effect on their surrounding environment.

Self-actualization Needs

This last need is the need to develop fully and to realize one’s capacities and potentialities to the fullest extent possible, whatever these capacities and potentialities may be. This is the highest level of need in Maslow’s hierarchy and is activated as motivator when all other needs have been reasonably fulfilled. At this level, the person seeks challenging work assignments that allow for creativity and opportunities for personal growth and advancement.

This need is for soul searching and is inner-oriented. A self-actualized person is creative, independent, content, and spontaneous and has a good perception of reality. He is constantly striving to realize his full potential. Thus, “what a man ‘can’ be, ‘must’ be”.

Maslow’s model is a general model in which all needs interact with each other to some degree. Needs are not necessarily linear, nor is the order of needs so rigid. The relative dominance of many needs is variable and is continuously shifting. For example, a self-actualized person may shift his priority to social needs and love needs instead of prestige and status, if suddenly there occurs a vacuum due to loss of a loved one. Similarly, a person may not go to the higher need, even when his lower needs are satisfied. It is also likely that a well-prepared elite person may decide to enter a commune where there is overwhelming emphasis on love and affection rather than climb the corporate ladder.

Maslow’s theory made management aware that people are motivated by a wide variety of needs and that management must provide an opportunity for the employees to satisfy these needs through creating a physical and conceptual work environment, so that people are motivated to do their best to achieve organizational goals.

The first level needs in the hierarchy, the physiological needs can be satisfied through such organizational efforts and incentives as adequate wages and salary, acceptable working conditions in order to improve comfort, and avoid fatigue, more leisure time and acceptable work environment in terms of

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lighting, ventilation, rest rooms, working space, heat and noise level. Some bonuses and other fringe benefits will be highly motivational.

The second level needs of safety and security can be satisfied through management's initiative to provide life insurance, medical insurance, job security, cost of living increments, pension plans, freedom to unionize, and employee protection against automation. The economic security to some degree is provided by law in the form of minimum wages, unemployment benefits, and welfare benefits. Similarly, unions protect employees against discrimination and indiscriminate firing.

Since first level physiological needs and second level security needs are primarily met by business, industrial, societal and legal environment, management must take steps to satisfy higher level needs and must establish as to which of these needs are the stronger sources of motivation.

When the third level needs of love and affiliation become motivators, then people find an opportunity in their work environment for establishing friendly interpersonal relationships. The management can satisfy these needs by:

- Providing opportunities for employees to interact socially with each other through coffee breaks, lunch facilities and recreational activities such as organized sports programmes, company picnics and other social get togethers.
- Creating team spirit by keeping work groups informal wherever possible with friendly and supportive supervision.
- Conducting periodic meetings with all subordinates to discuss matters pertaining to personal achievements and contributions as well as organizational developments.

The fourth level needs of self-esteem involve a feeling of satisfaction and achievement and recognition for such achievement. The management can take the following steps to satisfy these needs:

- Design more challenging tasks and provide positive feedback on performance of employees.
- Give recognition and encouragement for performance and contribution and delegate additional authority to subordinates.
- Involve subordinates in goal setting and decision-making processes.
- Provide adequate training and executive development programmes to help employees successfully accomplish their goals and increase their competency on their jobs.
- Provide some of the symbols for status and respect, such as executive level job title, private secretary, privileged parking, promotion,

company car, stock options and write-ups about achievements in the company newsletters.

The fifth and top-level needs of self-actualization demand growth and creativity and the management can take the following steps to satisfy these needs.

- The employees should be given an opportunity to shape their own jobs.
- Give employees the freedom of expression. This will open the channels of communications further and give the employees an opportunity to get involved.
- Encourage and develop creativity among employees. Creativity is tied in with freedom of expression and freedom of movement.

Maslow believed that from the point of organizational behaviour, the management should strive to create an organizational hierarchy. Research has established that top managers generally are more able to satisfy their higher level needs than lower level managers who have more routine jobs. Blue collar workers who have very little freedom over job operations may not even experience the higher-level need.

ERG Theory

The ERG need theory, developed by Clayton Alderfer, is a refinement of Maslow's needs hierarchy. Instead of Maslow's five needs, ERG theory condenses these five needs into three needs. These three needs are those of Existence, Relatedness and Growth. The E, R and G are the initials for these needs.

Existence needs: These needs are roughly comparable to the physiological and safety needs of Maslow's model and are satisfied primarily by material incentives. They include all physiological needs of Maslow's model and such safety needs that are satisfied by financial and physical conditions rather than interpersonal relations. These include the needs for sustenance, shelter and physical and psychological safety from threats to people's existence and well-being.

Relatedness needs: Relatedness needs roughly correspond to social and esteem needs in Maslow's hierarchy. These needs are satisfied by personal relationships and social interaction with others. It involves open communication and honest exchange of thoughts and feelings with other organizational members.

Growth needs: These are the needs to develop and grow and reach the full potential that a person is capable of reaching. They are similar to Maslow's self-actualization needs. These needs are fulfilled by strong personal involvement in the organizational environment and by accepting new opportunities and challenges.

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A rough similarity between ERG theory and Maslow's theory is as follows:

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Maslow	ERG
Self-actualization	Growth
Self-esteem (upper level)	
Self-esteem (lower level)	Relatedness
Social	
Safety	Existence
Physiological	

ERG theory differs from Maslow's theory in proposing that people may be motivated by more than one kind of need at the same time. While Maslow proposes that in the hierarchy of needs, a person will satisfy the lower level needs before he moves up to the next level of needs and will stay at these needs until they are satisfied, ERG theory suggests that if a person is frustrated in satisfying his needs at a given level, he will move back to the lower level needs. For example, assume that a manager's existence needs are fully satisfied and he looks for more challenging tasks to satisfy his self-esteem needs. If his efforts are frustrated in meeting these challenges, he will move back to existence needs and may ask for more material benefits.

McClelland's Theory of Needs

Since the lower level needs in Maslow's model are generally satisfied by the business, societal and legal systems, they are no longer strong motivators. Studies conducted by Harvard psychologist David McClelland concluded that from the organizational behaviour point of view, the most prominent need is the "achievement motive" and affiliation. The primary motive is the "achievement motive" and is defined as a "desire to succeed in competitive situations based upon an established or perceived standard of excellence."

Individuals with a strong "need for achievement" (known as n Ach), ask for, accept and perform well in challenging tasks, that require creativity, ingenuity and hard work. They are constantly preoccupied with a desire for improvement and look for situations in which successful outcomes are directly correlated with their efforts so that they can claim credit for success. They take moderate and calculated risks and prefer to get quick and precise feedback on their performance. They set more difficult but achievable goals for themselves because success with easily achievable goals hardly provides a sense of achievement. They desire greater pleasure and excitement from solving a complex problem than from financial incentives or simple praise.

The "need for power" (n Pow) is the desire to affect and control the behaviour of other people and to manipulate the surroundings. Power

motivation, when applied positively, results in successful managers and leaders who prefer democratic style of leadership. Power motivation, applied negatively, tends to create arrogant autocratic leadership. The individuals who are high in “n Pow” are described by Litwin and Stringer as follows.

“They usually attempt to influence others directly—by making suggestions, by giving their opinions and evaluations and by trying to talk others into things. They seek positions at leadership in group activities, whether they become leaders or are seen only as “dominating individuals” depends on other attributes such as ability and sociability. They are usually verbally fluent, often talkative, sometimes argumentative.”

These individuals tend to be superior performers and show high degree of loyalty to the organization. They are more mature, with a strong sense of justice and equity and are willing to sacrifice their own self-interests for the sake of organizational interests.

The “need for affiliation” (n Aff) is related to social needs and reflects a desire for friendly and warm relationships with others. Individuals tend to seek affiliation with others who have similar beliefs, backgrounds and outlook on life. This results in the formation of informal groups and informal organizations. It is evident in social circles also that people mix with people of their own kind. Individuals with high “n Aff” tend to get involved in jobs that require a high amount of interpersonal contacts and relations such as jobs in teaching and public relations. From organizational behaviour point of view, these individuals are highly motivated to perform better in situations where personal support and approval are tied to performance. They tend to avoid conflict and exhibit strong conformity to the wishes of their friends.

Check Your Progress

1. Name the two types of theories that define the motivational processes.
2. State one assumption of Maslow’s theory.
3. What are the three needs in ERG theory?
4. What is the most prominent need as per David McClelland?

3.3 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The two types of theories that define the motivational processes are “content theories” and “process theories”.
2. First assumption of Maslow’s theory is that human beings have many needs that are different in nature, ranging from the biological needs at

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the lower level that is the level of survival, to psychological needs at the upper extreme that is the level of growth.

3. The three needs in ERG theory are those of existence, relatedness and growth.
4. David McClelland concluded that from the organizational behaviour point of view, the most prominent need is the “achievement motive” and affiliation.

3.4 SUMMARY

- There are basically two types of theories that relate to and define the motivational processes.
- These are the “content theories” that attempt to determine and specify drives and needs that motivate people to work and “process theories” that attempt to identify the variables that go into motivation and their relationship with each other.
- The content theories have been developed to explain the nature of motivation in terms of types of need that people experience.
- The basic idea underlying such theories is that people have certain fundamental needs, both physiological and psychological in nature, and that they are motivated to engage in activities that would satisfy these needs.
- Douglas McGregor (1906–64) was a professor of industrial management at Massachusetts Institute of Technology (MIT) for most part of his career.
- His contribution to management thought lies in his proposal that a manager’s assumptions about the role of employees determines his behaviour towards them.
- Maslow’s “needs hierarchy theory” is probably the most widely used theory of motivation in organizations.
- Abraham Maslow suggested that people have a complex set of exceptionally strong needs and the behaviour of individuals at a particular moment is usually determined by their strongest need.
- Maslow postulates five basic needs arranged in successive levels. These needs continue to change resulting in change in goals and activities.
- The physiological needs form the foundation of the hierarchy and tend to have the highest strength in terms of motivation.

- These are primarily the needs arising out of physiological or biological tension and they are there to sustain life itself and include the basic needs for food, water, shelter and sex.
- The need for esteem is to attain recognition from others that would induce a feeling of self-worth and self-confidence in the individual.
- Maslow's model is a general model in which all needs interact with each other to some degree. Needs are not necessarily linear, nor is the order of needs so rigid.
- The ERG need theory, developed by Clayton Alderfer, is a refinement of Maslow's needs hierarchy. Instead of Maslow's five needs, ERG theory condenses these five needs into three needs.
- These three needs are those of Existence, Relatedness and Growth. The E, R and G are the initials for these needs.
- ERG theory differs from Maslow's theory in proposing that people may be motivated by more than one kind of need at the same time.
- While Maslow proposes that in the hierarchy of needs, a person will satisfy the lower level needs before he moves up to the next level of needs and will stay at these needs until they are satisfied, ERG theory suggests that if a person is frustrated in satisfying his needs at a given level, he will move back to the lower level needs.
- Studies conducted by Harvard psychologist David McClelland concluded that from the organizational behaviour point of view, the most prominent need is the "achievement motive" and affiliation.
- The primary motive is the "achievement motive" and is defined as a "desire to succeed in competitive situations based upon an established or perceived standard of excellence."
- The "need for affiliation" (n Aff) is related to social needs and reflects a desire for friendly and warm relationships with others.

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3.5 KEY WORDS

- **Autocratic:** It means taking no account of other people's wishes or opinions; domineering.
- **Hierarchy:** It is a system in which members of an organization or society are ranked according to relative status or authority.
- **Physiological:** It means relating to the way in which a living organism or bodily part functions.

3.6 SELF ASSESSMENT QUESTIONS AND EXERCISES

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Short Answer Questions

1. What are content theories of work motivation? Name some of the theories and who proposed them.
2. Briefly state McGregor's Theory X and Theory Y and discuss their assumptions.
3. State the basic assumptions of McClelland's Theory of Needs.

Long Answer Questions

1. Give a detailed description of Maslow's "needs hierarchy theory". Explain each need in detail. How can the management satisfy these needs?
2. Analyse Clayton Alderfer's ERG Theory. How is it similar to or different from Maslow's model?

3.7 FURTHER READINGS

Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.

Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.

Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.

Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.

Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

BLOCK - II**PERSONALITY AND MOTIVATION**

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UNIT 4 PERSONALITY

Structure

- 4.0 Introduction
- 4.1 Objectives
- 4.2 Kelly's Theory of Personal Constructs
- 4.3 Rogers Self-theory of Personality
- 4.4 Existential Approach to Personality
 - 4.4.1 Therapies and Application
- 4.5 Answers to Check Your Progress Questions
- 4.6 Summary
- 4.7 Key Words
- 4.8 Self Assessment Questions and Exercises
- 4.9 Further Readings

4.0 INTRODUCTION

Personality can be defined as a dynamic and organized set of characteristics possessed by a person that uniquely influences their environment, cognitions, emotions, motivations, and behaviours in various situations. The word originates from the Latin *persona*, which means “mask”. The study of personality has a broad and varied history in psychology with an abundance of theoretical comments. The major theories of personality include dispositional (trait) perspective, psychodynamic, humanistic, biological, behaviorist, evolutionary, and social learning perspective. It is a scientific study which intent to show how people are individually different due to psychological forces.

The two dimensions of personality are impulsivity and anxiety. These have strong effects upon the efficiency of cognitive performance. The effects of these two variables depend upon characteristics of the task.

In this unit, you will study major theories of personality and its structure in detail. Kelly's theory of personal construct, Rogers' self-theory of personality and the existential approach to personality are discussed in depth in this unit.

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4.1 OBJECTIVES

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

- Discuss Kelly's theory of personal constructs
 - Describe Rogers' self-theory of personality
 - Explain the existential approach to personality
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4.2 KELLY'S THEORY OF PERSONAL CONSTRUCTS

Cognitive theory of personality was developed by George Kelly as a reaction to psychoanalytic and phenomenological theories of personality. His basic assumption was that most of man's behaviour is influenced by thinking, judging and anticipating rather than instincts, drives, growth or other such motivating forces. He viewed the individuals' way of interpreting an event, situation or the world as the primary influence on behaviour. According to him, a person anticipates events by constructing their replications. A person experiences events and interprets them. He places a structure and a meaning to the events. His system is highly rationale in perspective. It is based on his firm conviction that each man is capable of being a scientist, of constructing his own theory and consequently he believed that each man is able, to a great extent, to control and predict his own life.

Structure of personality. The structure of personality, according to Kelly, is simple. It involves only one type of element, 'The Personal Construct'. A personal construct is a way of constructing or interpreting the world, based on his evaluations of himself, his evaluation of things that influence his life and his feelings of what the future will bring as a result of these evaluations. The development of personal construct depends on the relationship of the person with significant persons in his life.

Interpretation of the world and himself are dependent on the reflections of his relationship with those persons who are close to him. These interpretations also help determine his own present and future behaviour.

Thus it seems that the first step in forming a construct is the individual's interpretation of his experiences and next step is ordering these interpretations into attitudes that are so highly structured as to be personal theories about the world. According to Kelly, all men construct their personal theories. Since an individual is continually faced with solving problems and since constructs are not all of equal importance in solving these problems, Kelly found it useful to talk about constructs that are basic to a person's functioning.

Core constructs and peripheral constructs. Core constructs are basic to a person's functioning whereas peripheral constructs can be altered without serious modification of the core structure. An example of a core construct formed by the individual is attitude toward a political party or social position. In this case the individual is apt to be influenced by the significant persons in his life or by significant aspect of his world such as his socio-economic background. In contrast, peripheral constructs are illustrated by a person's food preference.

Dynamics and development of personality. By explicitly denying the necessity of motivational concept of instinct, drive or need, Kelly took a unique stand in personality theory. He felt that the concept of motivation implied that man was an inert machine requiring an internal force to move him. To avoid the complexities of motivation, he simply assumed that man has the energy necessary to be the active organism that he is. As Kelly described it, "the organism is delivered fresh into psychological world alive and struggling."

Thus, in one grand gesture, Kelly swept away an issue that had bogged down personality theory for a long time. He felt so since we can solve the question of motivation. He did this simply by stating that motivation is a given, that living organisms are by definition motivated.

Kelly described:

"Motivation theories can be divided into push and pull theories. Under push we find drives, motives or stimulus. Pull theories use purpose, value or need. In terms of a well-known metaphor, these are the pitch fork theories on the one hand and Carrot theories on the other hand. But our is neither of these."

Since Kelly did not feel the need for motivation to explain the person's activity so he was of the opinion that a person's processes are psychologically channelized by the ways in which he anticipates the events. We seek prediction, we anticipate events, we reach out to the future through the window of the present. In experiencing events, the individual observes similarities and differences, thereby developing constructs. Kelly, like Rogers, had no explicit description of how the personality develops. Rather he seemed to make the implicit assumptions that since personal constructs appear to be a function of experience, development is the gradual elaboration based on the person's experiences, of one's personal constructs. In turn, if constructs are based on experience, then the more varied and rich the individual's experiences, the more complex and elaborate his system of constructs.

The major contribution of Kelly is his emphasis on rationality in the development of personality. He developed a fixed role therapy in which the client is urged to behave in new ways, to think of himself in new ways and thus becomes a new personality.

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Check Your Progress

1. Who developed cognitive theory of personality and why?
2. What was Kelly's basic assumption?

4.3 ROGERS SELF-THEORY OF PERSONALITY

Carl Rogers developed a quite different approach to understand human personality. He presented in 1947 a theory known as self-theory of personality which is basically based on his client-centred therapy. He stresses the importance of the individual who determines his own fate. The core of our nature is essentially positive. All of us try to achieve self-actualisation, maturity, and socialisation. His theory has been greatly influenced by his early training as a student of divinity and his scientific attitude to life. Rogers criticised behaviouristic theory of personality as mechanical. He believed that behaviour is not based primarily on physiological needs, drives or avoidance behaviour but, instead, on a higher driving force within human beings which impels them toward complex personality patterns; that is, a person seeks a form of spiritual reward in a religious sense but in a self-fulfilling sense.

Structure of personality. There are two basic concepts underlying his personality theory: (a) Organism, and (b) the Self. The organism is the centre of all experiences that take place within the individual at a particular time. The totality of experiences is called the 'Phenomenal field'. It develops a person's unique outlook or frame of reference. This phenomenal field of the individual includes totality of experiences. The self as a part of the phenomenal field can perhaps best be thought of as the concept of I, me or myself. In addition to this concept of self-called the real self, there is an ideal self which represents what we would like to be.

According to Rogers, each of us has a potential for self-actualization. Self-actualization for Rogers means a set of guiding principles, the potential of which is present in us from childhood like seeds but in need of water. The basic potential is present in the individual, but the individual must become aware of it. The experiencing individual reacts to his perceptual field as reality and as an organized whole as he seeks to actualize, maintain and enhance himself. Behaviour, according to him, is basically goal-directed effort of the organism to satisfy needs as experienced in the field.

Dynamics of personality. According to Rogers, the organism continually strives to develop and expand the self. Motivation is focussed on striving to one's goal of self-actualization. Here in this aspect of self-actualization his theory resembles the theory of self-actualization by Maslow. In order to clarify the confusion between these two theories, let us differentiate them from each other. The first distinction is that Rogers feels that a person has the

potential for self-actualization from the beginning of his life and is working toward it. Under Maslow's system, self-actualization is possible only after more basic needs have been met by the individual. Second distinction is that in Rogers system a person is self-actualized if he feels satisfied in his environment by producing satisfactory results in his life and has high self-concept whereas in Maslow's system self-actualization means reaching the apex of achievement in a selected area of life. Maslow is more concerned with goals that satisfy specific needs.

There are no specific stages in the development of personality according to Rogers. Human beings have an inherent tendency to develop their 'self' in the process of interpersonal and social experiences which they have in the environment. The important fact of development is how the person sees himself and evaluates his worth at a particular time. He emphasized the importance of the present experiences. In order to achieve self-actualization, four conditions are necessary:

1. The person must be respected and loved by others.
2. The person must respect and have faith in himself and his abilities to achieve his goal.
3. The choices available to the individual must be clearly perceived. If the person is unaware of the choices, self-growth is hindered.
4. The choices must be clearly symbolized. The person must not only be aware of alternatives but he must also have clear-cut descriptions and full understanding of choices.

Rogers does not propose a fixed set of stages in the development of personality like Freud. He, on the other hand, emphasizes the continuity of growth. The person continually strives to develop self. The person has a number of experiences. He incorporates these experiences into his frame of reference if they are appropriate to him. In doing so he forms a self, may be a self which is outgoing or private, friendly or unfriendly. Once the concept of self is formed then the individual allows into his consciousness external things that fit in his world and rejects those that do not. Rogers calls this process symbolization, meaning that we recognize certain things as appropriate to us and make them into symbols for ourselves.

Personality development is a reciprocal relationship between the ways a person views his experiences and his actual social and interpersonal experiences. Development of personality is a continuous growth which occurs because of inherent tendency toward self-growth on the one hand, and our personal, environmental and social experiences on the other. A self-structure is formed particularly as a result of evaluational interaction with others and values develop from the self and experiences. Most of the ways of behaving which are adopted by the organism are those which are consistent with the concept of self. A developing and reasonably mature person must have values

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that are consistent with the behaviour and be aware of his feelings, attitudes and impulses.

There must be flexibility in the development of a person's personality which will lead to greater creativity and productivity when he is confronted with a problem to solve. A normal person grows more flexible, creative and tolerant as he matures.

Rogers emphasized the importance of individuality of each man's motivation in the development of personality. He developed a system of psycho-therapy known as non-directive or client-centred therapy which will be discussed in a subsequent chapter.

4.4 EXISTENTIAL APPROACH TO PERSONALITY

By definition, existentialism is a philosophical theory or approach which emphasizes the existence of the individual person as a free and responsible agent determining their own development through acts of the will. It is a philosophical perspective which was also expressed through art, literature and other forms of socio-psychological comment. During the 1930'-1950's in Europe, existentialism was at its height. Jean Paul Sartre, Albert Camus, Friedrich Nietzsche and Soren Kierkegaard are renowned philosophers.

Existentialism was of the view that there is not inherent meaning to life that existed and that meaning had to be constructed. It believes human to be challenged by the reality of temporary existence. Only those who could face existential crisis and still go on to construct a meaningful life were considered to be authentic human beings.

The philosophical root of the phenomenological approach to personality is represented through existentialism.

Key Elements of Existential Psychology

Existentialists believe that human beings have no existence apart from the world. Being-in-the-world or dasein is man's existence. Dasein is the whole of mankind's existence. The basic truth of life is that death is the inevitable end of life. And this awareness about death as an inevitable end results in anger or anguish.

So, we either decide to retreat into nothingness or have the courage to keep going. Suicide can be the extreme of the retreat into nothingness, however, we can also retreat into nothingness by not living authentic lives.

This perspective emphasizes that we live authentically. Which means living a morally correct life that is honest and insightful. Authenticity is about living genuinely with one's angst and achieving meaning despite the temporary nature of one's existence. Life has no meaning, unless you

create it. Friedrich Nietzsche said the only logical response to this void and meaninglessness was to rise above it and become a superman.

Each individual is responsible for his or her own choices. However even honest choices may not always be good choices. You will still feel guilty over failing to fulfill all the responsibilities in your life. Existential guilt, or existential anxiety or angst is inescapable.

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Ludwig Binswanger

In 1958, Ludwig Binswanger, an existential psychologist, addressed the issue that is at the heart of the phenomenological approach. He suggested that in order to understand how existence feels, we need to understand our experiences at three different levels, which means that the conscious experience of being alive has three components: biological (Umwelt), social (Mitwelt) and inner or psychological experience (Eigenwelt).

- Umwelt: We need to be aware of our physical sensation such as pain, pleasure, hunger, warmth, cold etc. in order to understand how existence feels.
- Mitwelt: We need to be aware of our social relations in order to understand how existence feels. What we think and feel as a social creature who exists in a world with other people. Your thoughts and feelings about others and the thoughts and feelings you receive from them is your experience of Mitwelt.
- Eigenwelt: This could be simply classified as introspection. In order to understand how existence feels we need to be aware of the inner workings of ourselves. This is all about our attempt to understand ourselves. It is the experience of experience itself.

Rollo May (1909-1994)

Rollo May introduced the existential perspective to the US. He accepted many psychodynamic principles (such as neurosis, repression and defense) and believed that individuals can only be understood in terms of their subjective sense of self. He felt that abnormal behaviour is often just a stratagem for protecting the centre (this is the subjective sense of self) against perceived threats. The person may give up on self-growth if he or she feels his centre is threatened and retreat to the secure, known centre.

May was majorly concerned with people's loss of faith in values. If we lose our commitment to a set of values, it will result in a complete sense of loneliness and emptiness. And if this happens, life will be meaningless. Therefore, it is important that we take responsibility for ourselves and find meaning in our lives.

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Viktor Frankl (1905-1997)

Viktor Frankl was in Nazi concentration camps from 1942-1945. In 1943, Frankl's father died in the Nazi concentration camp, Theresienstadt. In 1944, Frankl and his wife Tilly, and later his 65-year-old mother, were transported to the extinction camp Auschwitz. His mother was immediately murdered in the gas chamber, and Tilly was moved to Bergen-Belsen, where she died at the age of 24. Viktor Frankl was transported in cattle cars, via Vienna, to Kaufering and Trkheim (subsidiary camps of Dachau).

In the last camp in 1945, Viktor comes down with typhoid. To avoid fatal collapse during the nights he kept himself awake by writing on slips of paper stolen from the camp office. On April 27, the camp was liberated by U.S. troops. In August, Frankl returned to Vienna, where he learned, within a span of a few days, about the death of his wife, his mother and his brother who was murdered in Auschwitz together with his wife.

During his time in the camps, Viktor observed people who survived horrific circumstances but were able to resist despair. He was of the belief that those who were able to do so were people who found some sort of spiritual meaning in their lives. He believed that the prime motive of human behaviour is the will-to-meaning. In order to find a meaning in our troubled existence we need to discover meaning through values and we have a moral duty to discover these values. We discover these values through various means such as through work, love for others and through confrontation with our own suffering.

Frankl devised a treatment to help people find the meaning in their lives, known as logotherapy. Logotherapy views psychological problems as symptomatic of the person having lost meaning in life. Once meaning is rediscovered, the problems tend to resolve. This is done by confronting patients with their responsibility for their existence and by helping them choose values which provide meaning to their lives.

R. D. Laing (1927-1989)

According to the British psychiatrist and existentialist, R. D. Laing, the mind of modern man is a divided entity: the false self and the true self. He believed that modern social communication and the family in particular is very damaging. According to Laing, the family requires us to stifle our true feelings and pursue meaningless goals. He believes that the family discourages authentic, i.e. real behavior and by the time we reach adulthood we are cut off from our true self. We might seem normal, but we are really deeply impaired (Laing, 1967). According to him, abnormal behaviour is a function of relationships. Schizophrenia, according to Laing (1979, p. 115), is a special strategy that a person invents in order to live in an unlivable situation. Laing conceded that there may be some biological predisposition

towards schizophrenia, but he firmly believed that interpersonal stresses could lead people to find they can no longer maintain their false self and hence they retreat from reality into their own inner worlds of imagination.

Existential Psychology: The Therapeutic Approach

According to existentialists, freedom is a constant struggle, which people may want to avoid. Even if it is embraced it still comes with a price that is existential guilt and anguish. Though the goal of existential therapy is to set the client on this hard and long road. Through therapy, the therapists try to help restore a sense of self-responsibility & courage to facilitate self-discovery of meaning & purpose. It encourages a sense of responsibility for their symptoms by attempting to make them see that this way of being is something they have chosen and helps to show them that they are free (in fact obligated) to choose better ways of coping; ways that will give meaning to their lives. The therapists try to see the world as the patient sees it, but they are less emphatically warm than the humanist therapist. The most important source of meaning is respectful and honest personal relationships.

Therapy is very helpful as it deals with the person as a whole but the process of getting consistent therapy is long and costly and is best suited for neurotic disorders.

The existential approach emphasizes emptiness, powerlessness, loneliness and angst and admits that it is very hard to find meaning and value in our lives. As compared to the humanistic approach, existential approach has much more negative undertones.

4.4.1 Therapies and Application

The contribution of Carl Rogers to therapy is well recognized. His therapy was called as non-directive, as he felt that the therapist should not lead the client, but the client should direct the progress of the therapy and thus he changed the name of non-directive therapy to client-centred therapy. Rogers believed that the client should help therapist find ways of improving, and determine the conclusion of therapy.

Rogers asserted that independence (autonomy, freedom with responsibility) should be given to the client and he should not be fully dependent on the therapist. Rogers found that the therapist should have some special qualities in order to be successful in the therapy he provides to the client. He should be genuine and honest with the client. He should also show empathy –that is he must have an ability to understand the feelings and emotions of the client. The therapist must respect and show unconditional acceptance.

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Check Your Progress

3. What are the two concepts underlying Carl Rogers' personality theory?
4. Who introduced the existential perspective to the US?

4.5 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Cognitive theory of personality was developed by George Kelly as a reaction to psychoanalytic and phenomenological theories of personality.
2. Kelly's basic assumption was that most of man's behaviour is influenced by thinking, judging and anticipating rather than instincts, drives, growth or other such motivating forces.
3. The two basic concepts underlying Carl Rogers' personality theory are (a) Organism, and (b) the Self.
4. Rollo May introduced the existential perspective to the US.

4.6 SUMMARY

- Cognitive theory of personality was developed by George Kelly as a reaction to psychoanalytic and phenomenological theories of personality.
- His basic assumption was that most of man's behaviour is influenced by thinking, judging and anticipating rather than instincts, drives, growth or other such motivating forces.
- He viewed the individuals' way of interpreting an event, situation or the world as the primary influence on behaviour. According to him, a person anticipates events by constructing their replications.
- The structure of personality, according to Kelly, is simple. It involves only one type of element, 'The Personal Construct'.
- Core constructs are basic to a person's functioning whereas peripheral constructs can be altered without serious modification of the core structure.
- By explicitly denying the necessity of motivational concept of instinct, drive or need, Kelly took a unique stand in personality theory. He felt that the concept of motivation implied that man was an inert machine requiring an internal force to move him.

- Since Kelly did not feel the need for motivation to explain the person's activity so he was of the opinion that a person's processes are psychologically channelized by the ways in which he anticipates the events.
- The major contribution of Kelly is his emphasis on rationality in the development of personality. He developed a fixed role therapy in which the client is urged to behave in new ways, to think of himself in new ways and thus becomes a new personality.
- Carl Rogers developed a quite different approach to understand human personality. He presented in 1947 a theory known as self-theory of personality which is basically based on his client-centred therapy.
- There are two basic concepts underlying his personality theory: (a) Organism, and (b) the Self. The organism is the centre of all experiences that take place within the individual at a particular time.
- According to Rogers, each of us has a potential for self-actualization. Self-actualization for Rogers means a set of guiding principles, the potential of which is present in us from childhood like seeds but in need of water.
- Rogers does not propose a fixed set of stages in the development of personality like Freud.
- Personality development is a reciprocal relationship between the ways a person views his experiences and his actual social and interpersonal experiences.
- Existentialism is a philosophical perspective. It is expressed in forms of socio-psychological comment as well as in art and literature.
- As believed by existentialists, human beings do not exist anywhere apart from this world.
- Rollo May introduced the perspective of the existential to the US.
- The contribution of Carl Rogers to therapy is well recognized.
- His therapy was called as non-directive, as he felt that the therapist should not lead the client, but the client should direct the progress of the therapy and thus he changed the name of non-directive therapy to client-centred therapy.
- Rogers believed that the client should help therapist find ways of improving and determine the conclusion of therapy.

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4.7 KEY WORDS

- **Therapy:** It refers to the treatment of mental or psychological disorders by psychological means.

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- **Mitwelt:** It is a way in which individuals relate to the world by interacting socially with others.
- **Behaviour:** It refers to the way in which one acts or conducts oneself, especially towards others.

4.8 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. State George Kelly's theory of personal constructs in brief.
2. What are the four conditions to achieve self-actualization as given by Rogers?
3. Write short notes on:
 - (a) Rollo May
 - (b) Viktor Frankl
 - (c) R. D. Laing

Long Answer Questions

1. Analyse Carl Rogers' self-theory of personality. What is it based on and how is it different from Maslow's theory?
2. Who was Ludwig Binswanger? Give a detailed explanation on existential approach to personality.

4.9 FURTHER READINGS

- Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.
- Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.
- Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.
- Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.
- Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

UNIT 5 COGNITIVE: MOTIVATION

Structure

- 5.0 Introduction
- 5.1 Objectives
- 5.2 Cognitive Balance Theory of Hieder
- 5.3 Cognitive Dissonance Theory of Festinger
- 5.4 Physiological Changes Due to Cognitive Dissonance
- 5.5 Brehm's Personality Dissonance Theory
- 5.6 Answers to Check Your Progress Questions
- 5.7 Summary
- 5.8 Key Words
- 5.9 Self Assessment Questions and Exercises
- 5.10 Further Readings

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5.0 INTRODUCTION

Cognitive psychologists believe that there are three inborn and universal needs that help people in gaining a complete sense of self and others. These three needs of self-determination are autonomy (the ability to master the challenging task of one's life), relatedness (a sense of belonging, intimacy and security in relationship with others) and competence. Researcher believes that if a person has a supportive environment, and has a good relationship with others, it provides satisfaction. This satisfaction not only promotes psychological growth, but also increases the individual intrinsic motivation, which mean internally rewarded or satisfying act. Extrinsic motivation decreases the degree of creativity.

5.1 OBJECTIVES

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

- Explain cognitive balance theory given by Fritz Heider
- Describe cognitive dissonance theory by Festinger
- Analyse physiological changes due to cognitive dissonance
- Assess Brehm's personality dissonance theory

5.2 COGNITIVE BALANCE THEORY OF HIEDER

It is stated by the Balance theory that when people face tension, they try to eliminate them by persuading others or through self-persuasion. Fritz Heider and Theodore Newcomb had presented their theories on the concept.

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According to this theory, certain attitudes of the individuals can be represented by a plus (like) or a minus (dislike) sign. It is known that opinions differ from person to person which might lead to a feeling of discomfort among the people. On the other hand, two people might have the same opinion about a particular topic and thus share a feeling of comfort or balance.

It is proposed by the Balance theory that there are three ways in which balance can be felt by the people. They are discussed as follows:

- (i) First, both the source and the receiver can both dislike something but can like each other thus making them experience balance and comfort.
- (ii) Second, the source and the receiver both can harbour positive feelings toward each other as well as a positive attitude towards an object. This also will lead to a feeling of comfort or balance.
- (iii) Third, both the source and the receiver can feel negative about each other and also disagree about an object or an idea. This also leads to a feeling of comfort as both know that they both disagree about the same ideas or objects.

The Balance theory originated by Fritz Heider states how relationships develop among people and with the environment around. It presents the theory that if a set of cognitive elements are seen by the people as a part of the system, then the people will prefer to preserve a balance among all these elements. In simple words, if we feel that we are out of balance, we will want to reinstate the balance.

The Balance Theory can be taken as follows:

- The person who will be analysed: P
- The person who will be compared: O
- The thing that will be compared, for instance, an idea, a physical entity or an event. It can also be a third person.

The relationship between these components is then discussed. The goal of this theory is to understand the relationship between each of these pairs: P-O, P-X, and O-X in terms of

- L: Liking, evaluating and approving
- U: A more general cognitive unit. For instance, belonging or similarity.

The theory presents four sets of relationships between the components. They are:

- P+O, P+X, O+X
- P-O, P-X, O+X
- P-O, P+X, O-X
- P+O, P-X, O-X

Four unbalanced relationships have also been put forward by the theory. They are:

- P+O, P-X, O+X
- P+O, P+X, O-X
- P-O, P+X, O+X
- P-O, P-X, O-X

A third state of ‘non-balance’ was presented by Newcombe (1953) through which it was shown how the model can be used for highlighting the inconsistency among the people. The ‘strain towards symmetry’ was also talked about. Here, both O and P tend towards the same attitude, i.e. towards X.

For Example:

Balanced: P+O, P+X, O+X: Dave likes Sita, Dave likes dancing, Sita likes dancing.

Unbalanced: P+O, P-X, O+X: Dave likes Sita, Dave does not like dancing, Sita likes dancing.

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5.3 COGNITIVE DISSONANCE THEORY OF FESTINGER

Almost half a century ago, social psychologist Leon Festinger developed the cognitive dissonance theory (Festinger, 1957). The theory has obviously stood the test of time in that it is mentioned in most general and social psychology textbooks today. The theory is somewhat counterintuitive and, in fact, fits into a category of counterintuitive social psychology theories sometimes referred to as action-opinion theories. The fundamental characteristic of action-opinion theories is that they propose that actions can influence subsequent beliefs and attitudes. This is counterintuitive in that it would seem logical that our actions are the result of our beliefs/attitudes, not the cause of them. However, on further examination, these types of theories have great intuitive appeal in that the theories, particularly cognitive dissonance, address the pervasive human tendency to rationalize.

Cognitive dissonance theory is based on three fundamental assumptions:

(i) Humans are sensitive to inconsistencies between actions and beliefs.

- According to the theory, we all recognize, at some level, when we are acting in a way that is inconsistent with our beliefs/attitudes/opinions. In effect, there is a built in alarm that goes off when we notice such an inconsistency, whether we like it or not. For example, if you have a belief that it is wrong to cheat, yet you find

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yourself cheating on a test, you will notice and be affected by this inconsistency.

(ii) Recognition of this inconsistency will cause dissonance, and will motivate an individual to resolve the dissonance.

- Once you recognize that you have violated one of your principles, according to this theory, you won't just say "oh well". You will feel some sort of mental anguish about this. The degree of dissonance, of course, will vary with the importance of your belief/attitude/principle and with the degree of inconsistency between your behavior and this belief. In any case, according to the theory, the greater the dissonance the more you will be motivated to resolve it.

(iii) Dissonance will be resolved in one of three basic ways:

(a) Change beliefs

- Perhaps the simplest way to resolve dissonance between actions and beliefs is simply to change your beliefs. You could, of course, just decide that cheating is okay. This would take care of any dissonance. However, if the belief is fundamental and important to you such a course of action is unlikely.

Moreover, our basic beliefs and attitudes are pretty stable, and people don't just go around changing basic beliefs/attitudes/opinions all the time, since we rely a lot on our world view in predicting events and organizing our thoughts.

Therefore, though this is the simplest option for resolving dissonance it's probably not the most common.

(b) Change actions

- A second option would be to make sure that you never do this action again. Lord knows that guilt and anxiety can be motivators for changing behavior. So, you may say to yourself that you will never cheat on a test again, and this may aid in resolving the dissonance. However, aversive conditioning (i.e., guilt/anxiety) can often be a pretty poor way of learning, especially if you can train yourself not to feel these things. Plus, you may really benefit in some way from the action that's inconsistent with your beliefs. So, the trick would be to get rid of this feeling without changing your beliefs or your actions, and this leads us to the third, and probably most common, method of resolution.

(c) Change perception of action

- A third and more complex method of resolution is to change the way you view/remember/perceive your action. In more colloquial terms, you would "rationalize" your actions. For example, you

might decide that the test you cheated on was for a dumb class that you didn't need anyway. Or you may say to yourself that everyone cheats so why not you? In other words, you think about your action in a different manner or context so that it no longer appears to be inconsistent with your actions. If you reflect on this series of mental gymnastics for a moment you will probably recognize why cognitive dissonance has come to be so popular. If you're like me, you notice such post-hoc reconceptualizations (rationalizations) of behaviour on the part of others all the time, though it's not so common to see it in one's self.

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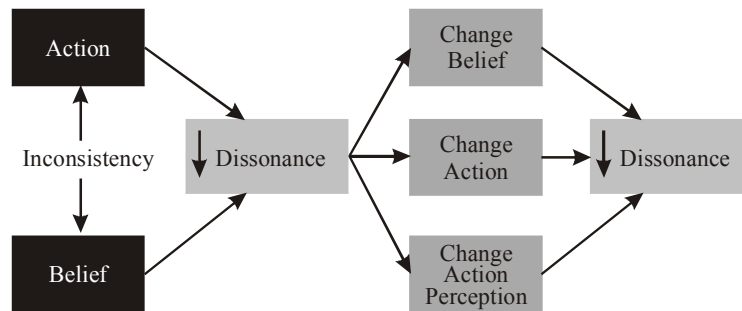


Fig. 5.1 Cognitive Dissonance Theory

The Experiment

There have been 100s, if not 1000s, of experiments that have examined cognitive dissonance theory since the theory's inception, but the seminal experiment was published in 1959 (Festinger & Carlsmith, 1959). This experiment is very interesting viewed within a psychological/historical context because it involves a direct test of a "mentalistic" theory versus a behaviourist theory. Cognitive dissonance theory was based on abstract/internal/mental concepts, which were, of course, anathema to the behaviorists.

Festinger and Carlsmith set up an ingenious experiment which would allow for a direct test of cognitive dissonance theory versus a behavioural/reinforcement theory.

In this experiment, all participants were required to do what all would agree was a boring task and then to tell another subject (who was actually a confederate of the experimenter) that the task was exciting. Half of the subjects were paid \$1 to do this and half were paid \$20 (quite a bit of money in the 1950s). Following this, all subjects were asked to rate how much they liked the boring task. This latter measure served as the experimental criterion/the dependent measure. According to behaviourist/reinforcement theory, those who were paid \$20 should like the task more because they would associate the payment with the task. Cognitive dissonance theory, on the other hand, would predict that those who were paid \$1 would feel the most dissonance

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since they had to carry out a boring task and lie to an experimenter, all for only 1\$. This would create dissonance between the belief that they were not stupid or evil, and the action which is that they carried out a boring task and lied for only a dollar (see Figure 5.2). Therefore, dissonance theory would predict that those in the \$1 group would be more motivated to resolve their dissonance by reconceptualizing/rationalizing their actions. They would form the belief that the boring task was, in fact, pretty fun. As you might suspect, Festinger's prediction, that those in the \$1 would like the task more, proved to be correct.

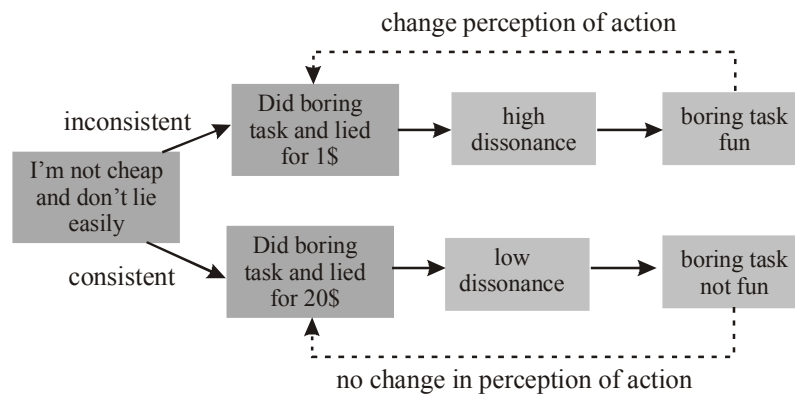


Fig. 5.2 Cognitive Dissonance Theory and the Festinger and Carlsmith (1959) Experiment

5.4 PHYSIOLOGICAL CHANGES DUE TO COGNITIVE DISSONANCE

When we are faced with a choice and we opt for one, we still have some regrets about what we did not choose. There are times we do or say things against our own convictions. Both these are examples of conditions that create feelings of discomfort caused by conflicts between various beliefs/attitudes that we hold. Sometimes the conflict arises due to the inconsistency between attitudes and behaviour; for example, some people love animals, but still are non-vegetarians.

Dissonance is the struggle a person experiences when inconsistencies occur between attitudes that we hold, or between our attitudes and actions. It can be seen as a motivational state. Individuals experiencing dissonance are motivated to reduce. It also produces a feeling of discomfort. There are three ways in which dissonance can be reduced and they are as follows:

- (i) Change your attitudes and/or behaviour, so as to make them consistent; for example, being married to a person, one does not like. Change the attitude towards the partner and start believing that she/he is not

unlikable or walk out of the marriage. Both these processes would lead to reduction in the conflict.

- (ii) Obtain or recruit new information that supports one's attitude or behaviour; for example, thinking, 'Compared to my friends' married life, my partnership is indeed tolerable,' or so many of my friends have divorced and ended a bad marriage. So there is nothing wrong about divorce.'
- (iii) Minimize the importance of the conflict. For example, 'I have lived for twenty-five years with someone whom I do not like. For the rest of my life, these conflicts do not matter. I will manage, somehow.'

One of these three ways would reduce the dissonance and bring in a sense of balance. The theory of cognitive dissonance was proposed by Leon Festinger in 1957.

Change of one or both attitudes is needed for reducing dissonance. Change follows the path of least effort, as in other situations. Aronson, Fried and Stone (1991) carried out a series of studies involving forced compliance. This involved getting people to do or say something they did not believe in. They used health related issues for inducing hypocrisy or lying, like safe sex. A group of participants had to encourage others to practice this responsible sexual behaviour. Simultaneously, they were reminded that they themselves have not always practised what they are now advocating. This would generate dissonance. This can be reduced by changing their attitudes about safe sex. This was revealed when 85 per cent of these participants actually bought contraceptive devices the next time they engaged in sex. This reduced their lying hypocritical attitude besides their actions.

Aronson and Mills gave subjects in two conditions, large and small rewards for engaging in behaviour that was counter to their held attitudes. The experiment consisted of two sets of female college students. One group had to undergo a severe embarrassment test to join the group. The other set of women were put through a milder test of embarrassment. Finally, the members of both the groups were told that they cleared the test and were allowed to join. The severely embarrassed group seemed to enjoy the task for which they enrolled with difficulty. The other group that went through milder difficulties to enter the group did not find the task that they were ultimately to perform much to their liking. The tasks that both the groups had to perform were dull and uninteresting.

The severely initiated group had a lot of dissonance because of the following two inconsistent attitudes that they held:

Underwent a severe initiation

Had to perform a dull task, at the end

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The severely embarrassed group changed their attitude towards the task, and perceived it as not so boring after all. In this way, the dissonance was reduced. The mildly initiated group had less dissonance because the intensity of the two attitudes (mentioned earlier) that they held was low.

In this condition, the dissonance was less, so they did not have any motivation to change their attitude towards the task, they were required to perform. Hence, they were able to view the task as dull because they put less into the situation. So people, who suffer more, justify it by thinking that they like what they have. In real life also one gets to see knowledge rewards lead people to believe that they like what they are doing. People working in corporate offices, that are demanding and leave little or no time for personal life, justify their lives (as the incentives are good) on the ground that they enjoy their work hours, lifestyle, etc. Here, the attitude is changed, so as to reduce the conflict that could arise by not having time or leisure for self or family.

Festinger and Carlsmith (1959) carried out a study in which they gave one group of subjects a small reward (\$1) and another group (\$20) for telling other participants—who were to come to participate in the study—that the tasks to do were interesting. In reality the task was a boring routine one like putting spools in a tray, taking them out and putting them back. This had to be done for half an hour.

Later, both sets of participants were asked to indicate their own liking for the tasks. This involved outright lying. The group that received \$1 to lie reported liking the task more than the group that was paid \$20. This was because the former group had more dissonance as they had to lie for a small amount, while the group that was paid more justified their lying in terms of their larger reward. The less paid group had experienced more dissonance. So they had to change their attitude towards the dull task and perceive it as not so uninteresting in order overcome their dissonance.

Less leads to more effect was demonstrated by this study. More attitudinal change comes when one has received a small reward. The smaller the inducements, the greater the change in attitude. However, these predictions are valid only when a free choice condition exists. People, who have to accept smaller salaries because of limited opportunities, are not going to change their attitudes towards the work they have to engage in.

Does inconsistency really cause dissonance? Cooper and Schier (1992) are of the opinion that dissonance and the motivation to reduce it, primarily comes from feelings of responsibility for negative outcomes. So when people are told that their attitude-discrepant behaviour does not lead to harmful effects, lesser attitude change occurs, like lying helps someone, but does not harm others.

If there is no dissonance, there is no possibility of attitude change. We still believe that lying is bad, but not when we do it under special circumstances (with a view to helping someone). When people recognize that their different attitudes or attitudes and behaviour do not fit together neatly, some discomfort or pressure to change arises. This is reduced in several ways to obtain a reduction in the feelings of unpleasantness.

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5.5 BREHM'S PERSONALITY DISSONANCE THEORY

The relationship between dissonance and decision-making was first explored and investigated by Brehm.

In 1956, Brehm examined dissonance theory's predictions for post-decision processing. After a decision, as per the theory, all of the cognitions that favor the chosen alternative are consonant with the decision, while all the cognitions that favor the rejected alternative are dissonant.

The greater the number and importance of dissonant cognitions and the lesser the number and importance of consonant cognitions, the greater the degree of dissonance experienced by the individual. In a decision-situation, dissonance is typically greater when the closer the alternatives are in attractiveness, as long as each alternative has several distinguishing characteristics. Dissonance caused by a decision can be reduced by viewing the chosen alternative as more attractive and/or viewing the rejected alternative as less attractive.

As part of an experiment conducted by Brehm, the participants had to either make an easy or a difficult decision, between two alternatives. Where alternatives were close in attractiveness, the decision was difficult. Whereas, the easy decision was one in which one alternative was much more attractive than the other. The participants were then asked to evaluate the decision options before and after the decision. Through this experiment, Brehm discovered that, after individuals made a difficult decision, they changed their attitudes to become more negative toward the rejected alternative. After an easy decision, participants did not change their attitudes.

Check Your Progress

1. What does balance theory state?
2. Who developed the cognitive dissonance theory?
3. What is dissonance?
4. Who was Brehm?

5.6 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

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1. Balance theory states that when people face tensions, they try to eliminate them by persuading others or through self-persuasion.
2. Leon Festinger developed the cognitive dissonance theory in 1957.
3. Dissonance is the struggle a person experiences when inconsistencies occur between attitudes that we hold, or between our attitudes and actions.
4. Brehm was the first to investigate the relationship between dissonance and decision-making.

5.7 SUMMARY

- Cognitive psychologists believe that there are three inborn and universal needs that help people in gaining a complete sense of self and others.
- These three needs of self-determination are autonomy (the ability to master the challenging task of one's life), relatedness (a sense of belonging, intimacy and security in relationship with others) and competence.
- It is stated by the Balance theory that when people face tension, they try to eliminate them by persuading others or through self-persuasion. Fritz Heider and Theodore Newcomb had presented their theories on the concept.
- The Balance theory originated by Fritz Heider states how relationships develop among people and with the environment around.
- A third state of 'non-balance' was presented by Newcombe (1953) through which it was shown how the model can be used for highlighting the inconsistency among the people.
- Almost half a century ago, social psychologist Leon Festinger developed the cognitive dissonance theory (Festinger, 1957).
- The theory is somewhat counterintuitive and, in fact, fits into a category of counterintuitive social psychology theories sometimes referred to as action-opinion theories.
- The fundamental characteristic of action-opinion theories is that they propose that actions can influence subsequent beliefs and attitudes.
- There have been 100s, if not 1000s, of experiments that have examined cognitive dissonance theory since the theory's inception, but the seminal experiment was published in 1959 (Festinger & Carlsmith, 1959).

- This experiment is very interesting viewed within a psychological/historical context because it involves a direct test of a “mentalistic” theory versus a behaviourist theory.
- Cognitive dissonance theory was based on abstract/internal/mental concepts, which were, of course, anathema to the behaviorists.
- Dissonance is the struggle a person experiences when inconsistencies occur between attitudes that we hold, or between our attitudes and actions.
- The theory of cognitive dissonance was proposed by Leon Festinger in 1957.
- Change of one, or both attitudes, is needed for reducing dissonance. Change follows the path of least effort, as in other situations. Aronson, Fried and Stone (1991) carried out a series of studies involving forced compliance.
- Aronson and Mills gave subjects in two conditions, large and small rewards for engaging in behaviour that was counter to their held attitudes.
- Cooper and Schier (1992) are of the opinion that dissonance and the motivation to reduce it, primarily comes from feelings of responsibility for negative outcomes.
- If there is no dissonance, there is no possibility of attitude change.
- The relationship between dissonance and decision-making was first explored and investigated by Brehm.

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5.8 KEY WORDS

- **Consonant:** It means in agreement or harmony with.
- **Cognition:** It is the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses.
- **Dissonance:** It refers to lack of agreement or harmony between people or things.

5.9 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. State the cognitive balance theory as given by Fritz Heider.
2. Briefly state the ways in which dissonance can be reduced.

3. Write a short note on physiological changes due to cognitive dissonance.

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Long Answer Questions

1. What are the fundamental assumptions of Festinger's cognitive dissonance theory? What was the experiment conducted by Festinger to test this theory?
2. Discuss Brehm's personality dissonance theory.

5.10 FURTHER READINGS

Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.

Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.

Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.

Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.

Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

UNIT 6 SOCIAL PERSPECTIVES

Structure

- 6.0 Introduction
- 6.1 Objectives
- 6.2 Bandura's Social Learning Theory
 - 6.2.1 Therapy and Application
- 6.3 Answers to Check Your Progress Questions
- 6.4 Summary
- 6.5 Key Words
- 6.6 Self Assessment Questions and Exercises
- 6.7 Further Readings

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6.0 INTRODUCTION

Most of the behaviour of individuals is learned. The learning depends upon the environmental factors. Many of the behaviour patterns are learned by direct experience. The reinforcement plays a major part in such type of learning. According to the social learning theory the situation is the most important determinant of behaviour. Social learning approach to personality is basically interested in knowing a specific behaviour pattern and then identifying the conditions that effect that pattern. Another area of interest is to discover whether there is any change in behaviour because of the change in the stimulus condition.

Thus, social learning theory emphasizes the environmental variables which influence behaviour, so by changing the situations the behaviour can be modified. Thus the emphasis is on situation specific behaviour. This theory finally asserts that people's behaviour remain fairly consistent if the situations and the role they are likely to play remains stable.

6.1 OBJECTIVES

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

- Explain Bandura's social learning theory
- Describe the basic principles of social learning
- Discuss the mechanisms of observational learning

6.2 BANDURA'S SOCIAL LEARNING THEORY

Bandura and Walters developed an observational learning theory (Social Learning Theory) of personality which is quite different from the S-R

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learning theory of Dollard and Miller described in unit 2. Their theory, no doubt, like other theories is based on the premise that behaviour is learned and personality can be explained in terms of the cumulative effects of a series of learning experiences. The principles of learning are sufficient to explain development of personality. But their approach differs from other learning theorists, particularly from Dollard and Miller's on the following points:

1. Dollard and Miller's theory of personality is based on neo-Hullian approach which has been rejected by Bandura and Walters who emphasize the role of observational learning (cognition) in the development of personality in contrast to strict S-R connections.
2. Dollard and Miller borrowed basic concepts from Freudian and Neo-Freudian theories and tried to explain them in terms of S-R connections. They tried to develop a rapprochement between learning theory and psychoanalytic theory of personality. On the other hand, Bandura and Walters are anti-Freudian and rejected psychoanalytic theory as an incomplete explanation of behaviour.
3. Dollard and Miller conducted experiments on animals under controlled conditions in laboratory and developed basic principles of learning. They extrapolated them to human life situations. Their applicability to human behaviour is doubted. Bandura and Walters, in contrast to other theorists, conducted experiments on children and their extrapolation from laboratory to real life is less artificial.
4. Other learning theorists did not take into account the role of observational learning (models) in the development of personality, whereas Bandura and Walters stress the major role of observational learning in the development of personality. They provide a more balanced synthesis of cognitive psychology with the principles of behaviour modification. According to Bandura *et al.* man's cognitive symbolic functioning is more important in acquiring new behaviours.

Basic Principles of Social Learning

According to Bandura and Walters, the most fundamental and significant principle of social learning is the principle of reinforcement. Most of our behaviour in social situations is acquired through the principle of reinforcement. The scope of responses acquired through reinforcement is unlimited. We will describe how aggressive behaviour can be acquired through reinforcement by children. An experiment to this effect was conducted by Cowan and Walters (1903). The experiment was conducted on small children who were given 'Bobo' clown with a sign saying 'Hit me' painted on the clown. It was observed by the experimenters that the rate of responding (hitting) were increased as a result of reinforcement. This

experiment further established the fact that partial reinforcement leads to greater resistance to extinction than continuous reinforcement.

Bandura and Walters emphasize the importance of reinforcement in situations where a person observes the actions of another person (model) who is reinforced or punished for these actions. They introduced an important type of reinforcement that is known as vicarious reinforcement which refers to the modification of an observer's behaviour by reinforcement administered to a model which is being observed. An illustration from the experimental studies conducted by Bandura and Walters will make the concept of vicarious reinforcement more clear. Nursery school children were exposed to films of adults or live adults behaving aggressively to a large plastic doll. They found that children who were exposed to aggressive models tended to behave toward the doll in the same way and exhibited a large number of precisely matching responses. Such responses rarely occurred for children who were not exposed to models behaving aggressively. This experiment indicates that children acquire novel responses through vicarious reinforcement by observing the behaviour of the model. This process of learning through imitation is influenced by the nature of the reinforcement given to the model. If we minutely analyse the behaviour of children, adolescents and even adults, we find that most of the behaviour is imitated to match the behaviour of the model. Models may be categorized into two broad categories:

- (a) *Real life models*. Under this category we can include parents, teachers, friends, movie stars, sports stars, most successful persons in the society or in the immediate environment.
- (b) *Symbolic models*. They include verbal material, pictorial and representation (film and TV) written materials, books, magazines and works of art. Both types of models are equally effective in learning.

It is a common experience that what children view and listen on TV and in films they try to imitate in their real life. Hairstyle, dress, delinquency and conversational styles have been imitated by our adolescents in recent years from films and TV.

Bandura and Walters use another term 'self-reinforcement' which operates in observational learning. In many situations the individual sets a standard for self-reinforcement. Children and adolescents tend to adopt standards of self-reinforcement which matches the standards of the models to which they have been exposed.

Positive reinforcement and reward play an important role in social learning. They strengthen our responses and develop a tendency to repeat the same responses in future. Bandura studied a number of factors which operate in social learning (observational learning). Few of the variables are given as:

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A. *Stimulus properties of the model*

1. The model's age, sex, social and economic status relative to that of the subject are varied. High status models are more imitated.
2. The model's similarity to the subject. The more similarity is between the model and the subject, the more imitation occurs.

B. *Type of behaviour exemplified by the model.* 1. Novel skills, 2. Hostile or aggressive responses, and 3. Standards of self-reward.

C. *Consequences of model's behaviour.* Rewarded behaviours of the model are more likely to be imitated.

1. Motivational set given to the subject: Instructions given to the subject before he observes the model provide him with high or low motivation to pay attention to and learn the model's behaviour.
2. Motivating instructions may be given after the subject views the model and before he is tested. This aids in distinguishing learning from performance of imitative responses.

Mechanisms of Observational Learning

Bandura and his associates extensively studied observational learning and made an analysis of the whole process of learning. They emphasized four interrelated sub-processes in observational learning as listed below:

1. *Attentional processes.* Attention to the model is the first process in observational learning. The subject must attend the model in order to learn from the model. Attention is influenced by a number of variables including the past functional value of attention to the model.
2. *Retention processes.* The subject, in order to integrate the behaviour of the model, must retain the learning.
3. *Motoric reproduction of skills.* A child or adult may know 'cognitively' and roughly what is to be done but nonetheless be relatively unskilled at the performance itself. A considerable motor practice with feedback of results is needed to shape the motor skills. It is known that with some motor skills such as basketball, shooting, driving and dart throwing, covert cognitive rehearsal or imaginary practice can often produce significant improvement in actual performance.
4. *The role of reinforcement.* Bandura treats the anticipation of reinforcement as a motivational factor determining expression of cognition and behaviours learned earlier.

Principles of Social Learning and Personality

The principles of observational learning have been applied by Bandura and Walters in the development of personality. From the very beginning of his life, the child learns a number of activities through observation of other's

behaviour. The male child imitates the behaviour of his father and the female child tries to imitate the behaviour of her mother. The model which the child observes in his environment plays two important roles in social learning. The *first* is that the model's behaviour may serve to elicit some responses in the observer that are already in his repertoire. This occurs when the behaviour is socially acceptable. *Secondly*, when the model is performing socially prescribed and deviant behaviour. It has been observed that children may identify with a person whom they dislike, if his behaviour is successful.

Bandura and Walters studied acquisition of different types of behaviour in children and adolescents. They advanced a new explanation of aggressive behaviour in children and adolescents. According to Miller, aggression is indirectly expressed or displaced outside the home but Bandura, in contrast to this view, points out that aggressive boys who are punished in home but are rewarded outside the home learn aggression. The tendency to be aggressive outside the home is an instance of acquisition of a discrimination based on the reinforcement history of these boys. They reject the theory of Miller on the ground that displacement may or may not occur and if it occurs the precise target for expression of tendency is chosen as a result of a specific reinforcement history in which responses directed towards that target have been directly or vicariously reinforced.

Observational learning plays an important role in personality development. We can learn acquisition of a variety of new responses like aggression, sex and dependency, etc. from a model. The strengthening or weakening of inhibitory responses such as acquiring greater or less fear by observing model's behaviour. Bandura in an experiment demonstrated that observational technique could lessen snake phobia. Observation also stimulates already existing responses in the repertoire of the individual.

As regards the stages in development of personality they do not postulate continuities and discontinuities in the development of personality like Freudian and other theorists. They emphasize that there are marked differences between individuals in their reinforcement history. Summarizing the main concept in their theory, we can say that they have emphasized the role of observational learning through which an individual attempts to imitate the behaviour of the model whose behaviour he has observed. They have given more importance to imitation in learning and have specified the conditions under which a child will reproduce the behaviour of a model. They reported that children tended to imitate the behaviour of an adult who controlled and dispensed reinforcements rather than an adult model who competed for reinforcement. Social learning theory by Bandura and Walters appears to be quite satisfactory theory of personality development but it has been criticized on two important points: one is that the theory is an antitrait and antigenetic approach to personality. It lays emphasis on the particular learning history of the individual which leads an individual to behave in

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a particular way in a particular situation. This approach emphasizes the importance of each particular situation in eliciting a particular behaviour pattern for a particular situation. It makes no allowance for genotypical influences on the development of personality. Genotypical influences are those influences which exist prior to and apart from the social learning process. The theory minimizes or ignores any intra-organismic determinant of behaviour which cannot be derived from a knowledge of individual's social learning history. Genotypical influences play an important role in the development of personality which have been ignored by Bandura and associates. The second criticism has been levelled by Epstein and Frenz (1967) who conducted experiments on the reactions of sport parachutists to the approach-avoidance conflict engendered by a forthcoming jump. Several evidences indicate that novice parachutists are very fearful as they approach the jump situation which is against the principles of social learning theory developed by Bandura and Walters. The social learning theory needs certain modifications in the light of recent investigations conducted by psychologists.

6.2.1 Therapy and Application

Freud's Psychoanalytic Theory and Bandura's Social Learning Theory described the concept of aggression in different ways. Freud believed that aggression was a drive whereas Bandura viewed it as a learned response.

Aggression as a drive

Freud's psychoanalytic theory viewed that all organisms' behaviour is guided by instinct, particularly by sex instinct. When these instincts are frustrated due to non-fulfilment of the desires, it produces an aggressive drive. Later, he proposed that whenever a person's effort to reach a goal is blocked, an aggressive drive is induced that motivates behaviour intended to injure the obstacles (person or object) causing frustration. However, it was concluded that frustration leads to aggression and the basic drive serve as the property of it.

Aggression through observation or imitation

According, to Bandura, aggression can be learnt through observation or imitation. Also, the more often it is reinforced, the more likely it is to occur. Children are more likely to express aggressive responses when they are reinforced for such actions, than when they are punished for the action. If aggression is a drive, expression of aggression should be cathartic, resulting in a reduction in the intensity of aggressive feeling and actions. On the other hand, if aggression is a learned response, expression of aggression could result in an increase in such actions (if the aggression is reinforced).

Check Your Progress

1. State one difference between Bandura's and Dollard and Miller's theory of learning.
2. What is the most fundamental and significant principle of social learning?
3. What is vicarious reinforcement?
4. How did Freud and Bandura view aggression?

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6.3 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Dollard and Miller's theory of personality is based on neo-Hullian approach which has been rejected by Bandura and Walters who emphasize the role of observational learning (cognition) in the development of personality in contrast to strict S-R connections.
2. According to Bandura and Walters, the most fundamental and significant principle of social learning is the principle of reinforcement.
3. Vicarious reinforcement refers to the modification of an observer's behaviour by reinforcement administered to a model which is being observed.
4. Freud believed that aggression was a drive whereas Bandura viewed it as a learned response.

6.4 SUMMARY

- Bandura and Walters developed an observational learning theory (Social Learning Theory) of personality which is quite different from the S-R learning theory of Dollard and Miller.
- The principles of learning are sufficient to explain development of personality. But their approach differs from other learning theorists, particularly from Dollard and Miller's.
- Dollard and Miller's theory of personality is based on neo-Hullian approach which has been rejected by Bandura and Walters who emphasize the role of observational learning (cognition) in the development of personality in contrast to strict S-R connections.
- Other learning theorists did not take into account the role of observational learning (models) in the development of personality, whereas Bandura and Walters stress the major role of observational learning in the development of personality.

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- According to Bandura and Walters, the most fundamental and significant principle of social learning is the principle of reinforcement.
- An experiment to this effect was conducted by Cowan and Walters (1903). The experiment was conducted on small children who were given 'Bobo' clown with a sign saying 'Hit me' painted on the clown.
- It was observed by the experimenters that the rate of responding (hitting) were increased as a result of reinforcement.
- Bandura and Walters emphasize the importance of reinforcement in situations where a person observes the actions of another person (model) who is reinforced or punished for these actions.
- They introduced an important type of reinforcement that is known as vicarious reinforcement which refers to the modification of an observer's behaviour by reinforcement administered to a model which is being observed.
- Bandura and Walters use another term 'self-reinforcement' which operates in observational learning.
- Bandura and his associates extensively studied observational learning and made an analysis of the whole process of learning. They emphasized four interrelated sub-processes in observational learning.
- Attention to the model is the first process in observational learning. The subject must attend the model in order to learn from the model.
- According to Miller, aggression is indirectly expressed or displaced outside the home but Bandura, in contrast to this view, points out that aggressive boys who are punished in home but are rewarded outside the home learn aggression.
- Freud's Psychoanalytic Theory and Bandura's Social Learning Theory described the concept of aggression in different ways. Freud believed that aggression was a drive whereas Bandura viewed it as a learned response.
- Freud's psychoanalytic theory viewed that all organisms' behaviour is guided by instinct, particularly by sex instinct.
- According, to Bandura, aggression can be learnt through observation or imitation. Also, the more often it is reinforced, the more likely it is to occur.

6.5 KEY WORDS

- **Aggression:** It refers to feelings of anger or antipathy resulting in hostile or violent behaviour; readiness to attack or confront.

- **Imitation:** It is the action of using someone or something as a model.
- **Intra-organismic:** It is a theory developed by Bowlby that states infants have an innate desire to develop attachments to other individuals.

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6.6 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. State how Bandura's social learning theory differ from Dollard and Miller's?
2. Write a short note explaining the mechanisms of observational learning.

Long Answer Questions

1. Why does Bandura and Walters emphasize the importance of reinforcement? What are the basic principles of social learning?
2. Explain aggression as a drive and aggression through observation or imitation.
3. The principles of observational learning have been applied by Bandura and Walters in the development of personality. Comment.

6.7 FURTHER READINGS

- Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.
- Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.
- Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.
- Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.
- Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

UNIT 7 INDIGENOUS PERSPECTIVES

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Structure

- 7.0 Introduction
- 7.1 Objectives
- 7.2 Motivation: Advaita, Buddhist and Jaina Perspectives and their Application
- 7.3 Personality and Healing Techniques: Advaita, Upanishads, Buddhist and Jaina Perspectives
- 7.4 Answers to Check Your Progress Questions
- 7.5 Summary
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- 7.8 Further Readings

7.0 INTRODUCTION

Motivation is the reason for humans to engage in specific behaviour. These aims may include basic needs such as food or desired objects, hobbies, goals or a state of being. The motivation for behaviour may also be ascribed to lesser reasons such as charity or morality. Thus, any action that an individual takes is the result of wanting to fulfil a need. The aim of fulfilling the need is known as motivation.

According to Hindu tradition, the four main aims that motivate human beings are, *kama* or desire, *artha* or wealth, *dharma* or duty and *moksha* or freedom. They form a path which leads to the ultimate achievement of *moksha* which is freedom from desire. This progression can be used to interpret the levels of human motivation.

The Advaita, Upanishads, Buddhist and Jaina perspectives on motivation and personality are discussed in detail in this unit.

7.1 OBJECTIVES

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

- Describe Advaita, Buddhist and Jaina perspectives on motivation
- Explain the Hindu theory of motivation
- Analyse the Buddhist theory of motivation
- Assess Advaita, Upanishads, Buddhist and Jaina perspectives on personality

7.2 MOTIVATION: ADVAITA, BUDDHIST AND JAINA PERSPECTIVES AND THEIR APPLICATION

This section describes the Hindu Theory of Motivation in detail.

Hindu and Jain Theory of Motivation

Unlike the modern theorists who focused upon the physical and psychological characteristics of human motivation, the ancient seers and philosophers of India approached the concept of motivation from a much broader perspective. They envisioned humans as role players in the play of God. It was as early as the Vedic times, that the seers of India probed into human behaviour to understand the forces that drove people to indulge in specific actions, behaviour, goals, and attitudes, and their implications to human life, suffering and salvation. After probing, the seers found out four major motivating factors, which they believed satisfied the most basic needs of humans and contributed to their peace and prosperity as well as the orderly progression of the world and society. These factors are as follows:

- Dharma (righteous actions)
- Artha (wealth)
- Kama (sexual desire)
- Moksha (total freedom to be)

It was evident that the seers thought about both materialistic as well as spiritual aspirations of humans including their ethical concerns, beliefs and values. They understood behaviour as the play of karma, duality, desires, and modes of Nature. The statements mentioned below summarize the seers' view of motivation:

1. Life itself means movement and activity (chaitanyam). Human beings cannot live without performing actions. There is no escape from them. It is the unbreakable law of life that that to be alive and aware, everyone needs to perform actions.
2. All actions are motivated by desires. Even gods are not free from desires. The Vedas confirm that it is desire that drives the worlds.
3. Beings are subject to desires because they are imperfect and incomplete. By seeking things through actions, they try to make up for their lack of perfections and completeness.
4. Only Isvara or Brahman (Supreme God) is not motivated by any desire or need to perform actions because he is complete and perfect in all respects. Still, he performs actions with indifference to keep the worlds going.

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5. Human suffering, bondage, karma and rebirth are a result of desire-ridden actions (or motivated actions).
6. As far as karma is concerned, both actions and inaction that arise from desires will have consequences to the destiny of individuals.
7. The continuous and repetitive interactions of the senses with the worldly objects gives rise to desires which leads to attraction (raga) and aversion (dvesha) to the dualities (dvandas) of life, which in turn results in attachments (or clinging) and desire-ridden actions.
8. Human desires, intentions, and motives may also arise from their past lives since dominant desires and habitual thoughts accompany the departing souls as latent impressions into their next birth.
9. It is not action but the desire for the fruit of actions that causes karma. Therefore, one should not renounce actions but the desire for their fruit or result should be given up.
10. One can escape from the bonds of karma and the problem of rebirth by renouncing selfish desires and motives in performing actions, and by living selflessly for the sake of God to manifest his will and divine qualities. God, the Creator, is the source of all actions. Hence, all actions should be rightfully offered to him in the sacrifice of life with the spirit of renunciation. Only then the final liberation or complete freedom is possible.

The Bhagavad-Gita and several other scriptures explain the Hindu theory of motivation in great detail. According to them, the best motivation that does not bind people or deceive them is that which arises from devotion to God and not material rewards. One should be motivated by the four major aims of human life that were listed before but in that process should remain God-centric rather than egocentric and selfish. Since human beings are incomplete and deficient in many aspects they are subject to desires, which drives them to engage in selfish actions to make themselves complete.

For example, despite possessing supernatural powers, gods cannot make food for themselves, similarly despite having the power to nourish the world humans cannot control their destinies or regulate their world without the help of gods and need their help, and demons cannot overcome death without taking birth as humans and achieve salvation. Such insufficiencies and weaknesses motivate beings to indulge in desire-ridden actions to seek things and help themselves. They prevent them from being free by trapping the beings in their respective spheres of life. They must overcome the desire to seek things and must cultivate indifference, dispassion and detachment through renunciation in order to be free. Thus, the key aspect of the theory of motivation in Hinduism while pursuing the goals of life, is the renunciation of selfish desires, drives and motives that are hidden in actions.

In Jainism, motivation for an action refers to the internal passions or negative emotions that prompt the act, including: anger, greed, pride, deceit etc.

Buddhist Theory of Motivation

Buddha's theory of human motivation is based on certain key factors shared by all human beings. His theory of motivation is primarily concerned with the nature of human dissatisfaction (*dukkha*) and how to dispel it. In the suttas, human beings are said to be motivated by craving (*tanha*, literally 'thirst') of three types. These are as follows:

- *Kama tanha* – this is a craving for sensory gratification, sex, novel stimuli, and pleasure.
- *Bhava tanha* – this is a craving for survival or continued existence. It also includes hunger and sleep as well as desire for power, wealth and fame.
- *Vibhava tanha* – this is a craving for annihilation, non-existence, also associated with aggression and violence towards oneself and others.

These three basic drives have been compared to the Freudian drive theory of libido, ego, and thanatos respectively (de Silva, 1973). The arousal of these three cravings is derived from pleasant or unpleasant feelings (*vedana*), reactions to sense impressions with positive or negative hedonic tone. Cravings condition clinging or obsession (*upadana*) to sense impressions, leading to a vicious cycle of further craving and striving, which is ultimately unsatisfactory and stressful.

The suttas have three “unwholesome roots” (*akusala mulas*) of suffering, negative emotions and behavior: *raga* (passion or lust); *dosa* (hatred or malice); and *moha* (delusion, or false belief). These are opposed by three wholesome roots which are liberality, kindness and wisdom.

Feeling or affective reaction (*vedana*) is also at the source of the emotions. Feeling is of different types and can be categorized in various ways such as physical or mental, pleasant, unpleasant or neutral; and as rooted in the different senses. The Buddha also differentiates between worldly and unworldly or spiritual feelings. He sees spiritual feelings as superior. Out of these basic immediate reactions as well as our situational context, conceptualization and personal history arise more complex emotions, such as fear, hatred, hope or despair. The ethical and spiritual importance of positive emotions such as compassion and friendliness are also highlighted by the Buddhist theory of emotions as antidotes for negative emotions and as vehicles for self-development.

According to Padmasiri de Silva, emotions can be segregated into four groups in the early Buddhist texts: “those which obstruct the ideal of the

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virtuous life sought by the layman, emotions that interfere with the recluse seeking the path of perfection, emotions enhancing the layman's ideal of the virtuous life and emotions developed by the recluse seeking the path of perfection.”

7.3 PERSONALITY AND HEALING TECHNIQUES: ADVAITA, UPANISHADS, BUDDHIST AND JAINA PERSPECTIVES

Let us discuss personality in the Rig Veda and Upanishads.

Personality in the Rig Veda

A simple contemplative psychological view of personality in Hindu Indian thought is given in the *Rig Veda* and again in the *Mundaka Upanishad* (Kuppuswamy, 2001). It is given as a story of two birds. Each bird symbolizes a different aspect of personality. While one bird reflects individual consciousness associated with ego or the personal self, the other symbolizes pure consciousness associated with Spirit or the impersonal self.

Psychologically, one can understand this story as describing the personal self or ego as involved in and attached to the field of action. It chases after the sweet fruits of bodily, emotional, cognitive and social desires. The Upanishads teach that when, due to spiritual ignorance, individuals identify themselves completely with this aspect of self and its attachments, desires, and actions, they forget that there is anything more to their personalities. They rise with the transient fulfillment of ego desires, and fall with transient worries about, and actual frustrations of, such desires (Kuppuswamy, 2001). It is one's psychological attachment to the pleasurable and aversion to the painful as the ultimate source of happiness that is said to cause suffering. This is so because all manner of sense pleasures, worldly statuses and material prosperity, and even contributions to community are said to be ephemeral and limited: pleasures quickly fade; statuses are often unstable due to their scarcity, exclusivity, or competitive nature; material prosperity cannot be taken to the grave; and despite all our best efforts, communities change ever so slowly in history (Smith, 1958). Individuals attached to (identified with) their ego-selves and related desires and fears are said to experience no lasting peace of mind or freedom from anxiety. As the *Chandogya Upanishad* puts it: Humans get happiness from the unlimited, from the limited, none. Find the Unlimited. (Swami & Yeats, 1937; p. 105).

It is the impersonal aspect of self-called *Atman* that is described as unlimited and unchanging and therefore the source of true happiness. This impersonal Self is described as the witness in human consciousness that is aware of, but not attached to, (ego-) desires, worries, and outcomes of

action. This aspect of consciousness is said to exist in all of the four states of consciousness described in the *Upanishads*, including the waking, dream, deep sleep, and unlimited bliss (*turiya*) states. It is said to be non-reducible (*badha*), stable and ever awake (even as we sleep this witness is awake such that it may report on our dreams in the morning; (Gupta, 1995). Identification of one's awareness with this aspect of personality leads to what is called witness consciousness. This is a state in which individuals experience themselves as *in the world*, functioning to pursue goals and perform necessary actions, but not *of the world* in that their inner state is not dependent upon outer contingencies and outcomes. This state is associated with great equanimity, effortless compassionate action, and bliss (Dass, 1999; Muktananda, 1980).

Personality in the Upanishads

A more elaborated version of personality that reflects the Great Nest of Being is given in the *Katha Upanishad* (Kuppuswamy, 2001; Zimmer, 1978). In this treatise, personality is described as a chariot that is being pulled by five horses over particular grounds and roads. The chariot holds a divine being and is driven by a charioteer who holds the reins of the five horses. The chariot represents the physical body (*sthula sarira*), the Lord of the chariot is the supreme Self or indwelling Spirit (*Atman*), the charioteer is the discriminating awareness (*buddhi*), the reins represent the ego-mind (*ahamkara or manas*), the five horses represent the organs of sense-perception and action (*indriyas*), and the roads and fields (*gocara*) represent the objects of sense-perception (*visaya*).

The view of personality in the *Katha Upanishad* both *describes* the normative condition of the personality and *prescribes* how personality should be developed to attain salvation. First, it describes how the organs of sense perception and action (the horses), when unrestrained by ego-mind (the reins) due to a lack of discriminating awareness (the charioteer), tend to race after the external objects of sense desire (fields and roads) pulling the body along (the chariot) in an instinctive, non-conscious and potentially destructive manner. Psychologically, this is a description of the state of mental restlessness and ceaseless activity, arising from an uncontrolled and unsteady mind and its extension through the senses, which afflicts most individuals on a daily basis. It suggests that without volitional control over the mind, ego desires and worries will tend to motivate an unending stream of behaviours aimed at the attainment of desired (pleasurable) objects and experiences and the avoidance of aversive (painful) ones. Although necessary for daily living, such pursuits, when unregulated and when completely identified with as the source of one's happiness, result in suffering. According to Hindu thinking, thoughts, words, and deeds to which we are attached in a psychological (ego) sense and that are aimed at limited fulfilments (e.g., sense pleasure, power, wealth, etc.) create moral consequences called *karma* that leave impressions

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in the mind (*samskaras*). These impressions are described as binding the individual to desired/feared aspects of the external world and are likened to the creation of mental habits. Such habits produce similar ego-desires in the future in an unending cycle. In this way, ego-attached and egocentric goals and behaviours produce habits (*karmic samskaras*) that necessitate birth after birth (the wheel of *samsara* or reincarnation) insofar as the individual must be reborn to experience their meritorious and retributive fruits of their previous actions aimed at securing happiness from without (Nirvedananda, 1944/2001).

The result is that the impure, self-willed, unsteady person misses the goal and is born again and again. (Swami & Yeats, 1937, p. 32). The goal referred to here is realization of *Atman* as *Brahman* or salvation (*moksha*). On the other hand, the view of personality presented in the *Katha Upanishad* also prescribes how individuals can develop personality and attain salvation. Specifically, the model suggests that the body (chariot) and organs of sensation and action (the horses) can be brought under the control of ego-mind (the reins) when a discriminating awareness (the charioteer) is applied to one's thoughts, words, and deeds. Psychologically, this is a prescription of how personality should be volitionally self-regulated if salvation is to be attained (Kuppuswamy, 2001). The means of regulating the personality towards this end includes the individual's volitional use of the law of karma to create positive, selfless mental habits, and gradually, the expansion of awareness to *witness consciousness* in which non-attachment to goals and their outcomes is realized (Nirvedananda, 1944/2001). As the sage Shankara explained, actions in this *relatively* (but not *absolutely*) *real world* have real consequences up until the moment of enlightenment. Morally good thoughts, words, and deeds are said to reveal (lead one to *dis-cover*) the divine inner nature of universe, others, and Self (*Atman* or Lord of the Chariot); whereas morally bad actions tend to obscure or cover up this implicit, ever-present divinity (Gupta, 1995).

Thus, the exercise of moral restraint in the pursuit of material desires and the gradual choice of selfless rather than selfish aims and actions are the first prescriptions in the development of personality towards the goal of salvation (Ajaya, 1978).

In these ways, the individual gradually transforms the iron chains of karma (associated with ego attached, ego-centric and often non-reflective actions that engender mixed moral consequences and therefore tend to obscure *Atman*) into the golden chains of karma (that hasten the dis-covering of *Atman*). As the non-conscious pursuit of desires and selfishness are brought under control and the mind becomes still, individuals' capacity to discern what is *Atman* (i.e., the Self) from what is *Anatman* (i.e., the non-Self) is said to increase, as is their ability to concentrate the mind inwardly in salvation-related goals. By practicing meditation, a process in which one's awareness

is choice fully focused on a single object for extended periods of time (rather than automatically extended outward through the mind and sense toward desired/feared objects), the individual discloses his or her intuitive capacity. This is associated with a gradual expansion of awareness from identification with ego-as-actor to witness consciousness in which one is aware of one's ego-self as actor (Muktananda, 1980). The onset of witness consciousness is said to gradually create non-attachment to ego, desires and the fruits of action, and to facilitate the ability of one's awareness to penetrate deeper into one's being toward the *Atman* (e.g., the Lord of the Chariot). The *Katha Upanishad* states that the one who restrains his or her mind and senses in these ways goes to that goal from which he [*sic*] never returns. He reaches the end of the journey and finds their all-pervading Spirit. (Swami & Yeats, 1937; p. 32). This re-identification of awareness with the *Atman* is the supreme goal of life according to the *Upanishads*. It is salvation and bliss, and releases one from the chains of *karma* and the wheel of *samsara* (Smith, 1958).

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Buddhism Theory of Personality

A complex psychology of personality types (Pali: Puggala-paññatti), personality traits and underlying tendencies (*anusaya*) is developed by Buddhism. This was mostly developed in the Buddhist Abhidharma literature. The major concern of this was to identify differing types of persons for soteriological and pedagogical ends. Depending on each person's personality and level of mental development, the Buddha was said to have skilfully taught different teachings. The development of a Personality psychology was important to the Abhidharmikas who sought to adapt Buddhist teachings and practice to each personality type so as to better lead persons to nirvana by purifying their minds of their mental defilements.

The Buddhist view of the person is summarized by the not-self teaching. This states that there is no unchanging core to a person, no soul (*atman*) or Ego. A person is defined as a stream of phenomenal events (termed *dhammas*) in a causal series of mind moments (*samaya*), and therefore an 'individual' or 'person' is merely a conventional designation for a collection of constantly changing processes (the five skandhas). However, in the analytical Abhidharma works, Buddhists outlined how different individuals could still be dominated by certain proclivities and tendencies, patterns of thought which arose consistently enough to allow one to designate different 'personality types'.

Theravada

The Theravada Abhidhamma Pitaka contains a section entitled 'The Puggala-paññatti', which translates to 'designation of person types' which contains an outline of a wide range of personality characteristics. The Abhidhamma generally considered twelve major classes of persons; four of the worldly

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ordinary class known as *puthujjana* and eight of the spiritual elect known as *ariya*, the noble ones. The Puggala-paññatti gives a very broad range of personal descriptors organized in 10 groups, so that the first group is 50 *single* descriptors, the second group is 26 *pairs* of descriptors, the third 17 *triplets*, so on and so forth. Descriptors include “one competent in watchfulness”, “one of perturbable nature”, “the wrathful and the vengeful”, “the jealous and the avaricious”, a “member of the elect (arhat)” etc.

The scholar Buddhaghosa, in the Visuddhimagga (Path of Purification), outlines several types of personalities, each one dominated by a particular characteristic. Grasping, aversion, and delusion (*lobha*, *dosa*, and *moha*) are the three major negative characteristics which condition a personality, and are also known as the three poisons, and prescribes certain meditation practices for each type. He also lists three main positive personality traits which are confidence (*saddha*), wisdom (*pañña*), and speculation.

Mahayana

The Buddhist scholar Asanga wrote *Levels of Listeners* and listed seven personality types. This are as follows:

1. One with a strong tendency for desire, the best initial meditation for them is unattractiveness.
2. One with a strong tendency for hatred, the best meditation for them is good-will.
3. One with a strong tendency for discursive thoughts, the best meditation for them is breath meditation.
4. One who is equally and moderately disposed for all mental afflictions, they may begin with any meditation.
5. One with mental afflictions that are not very strong, they may also begin with any meditation.
6. One with a strong tendency for ignorance, the best meditation for them is dependent origination.
7. One with a strong tendency for pride, the best meditation for them is ‘diversity of the constituents’.

Vajrayana

The model of the Five Buddha families is used by Tibetan Buddhism for describing an individual’s personality. Chogyam Trungpa said of this psychological model:

The buddha family or families associated with a person describe his or her fundamental style, that person’s intrinsic perspective or stance in perceiving the world and working with it. Each family is associated with

both a neurotic and an enlightened style. The neurotic expression of any buddha family can be transmuted into its wisdom or enlightened aspect. As well as describing people's styles, the buddha families are also associated with colours, elements, landscapes, directions, seasons-with any aspect of the phenomenal world.

The five main families are as follows:

- Buddha family: This is associated with the wisdom of all-encompassing space and the defilement of ignorance.
- Vajra family: This is associated with the mirror like wisdom and the defilement of anger.
- Ratna (jewel): This is associated with the wisdom of equanimity and the defilement of pride.
- Padma (lotus): This is associated with the wisdom of discriminating awareness and the defilement of passion.
- Karma: This is associated with all accomplishing wisdom and the defilement of envy/paranoia.

Jainism and Personality

According to Jainism, there are five steps to fuller life and complete personality. These steps are as follows:

1. Healthy body
2. Healthy mind
3. Healthy thoughts
4. Will power
5. Work efficiency

As per these, the first three steps are important for a good life, while the last two are vital to earning a good living. It cannot be completely denied that the external appearances of a person can make his personality. However, what is also important in the development of a complete personality is the proper functioning of the nervous and the glands. Also, the proper functioning of the thyroid glands is very important to personality development. A person whose thyroid glands produce less than sufficient thyroxine will become easily irritable his capacity to memorize decreases and so does his capacity to make decisions. If on the other hand thyroxin is produced in greater quantity than anxiety and anger will become more prominent. Therefore, a combination of these is important to maintain a good personality.

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Check Your Progress

1. Name the four motivating factors as given in Hindu theory of motivation.
2. What is Buddhist theory of motivation concerned with?
3. What are the three types of cravings?
4. What does the Theravada Abhidhamma Pitaka contain?

7.4 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The four motivating factors as given in Hindu theory of motivation are Dharma (righteous actions), Artha (wealth), Kama (sexual desire) and Moksha (total freedom to be).
2. Buddha's theory of human motivation is concerned with the nature of human dissatisfaction (dukkha) and how to dispel it.
3. The three types of cravings are Kama tanha, Bhava tanha and Vibhava tanha.
4. The Theravada Abhidhamma Pitaka contains a section entitled 'The Puggala-paññatti', which translates to "designation of person types" which contains an extensive outline of a wide array of personality traits.

7.5 SUMMARY

- Motivation is the reason for humans to engage in specific behaviour. These aims may include basic needs such as food or desired objects, hobbies, goals or a state of being.
- According to Hindu tradition, the four main aims that motivate human beings are, *kama* or desire, *artha* or wealth, *dharma* or duty and *moksha* or freedom.
- They form a path which leads to the ultimate achievement of *moksha* which is freedom from desire. This progression can be used to interpret the levels of human motivation.
- Unlike the modern theorists who focused upon the physical and psychological characteristics of human motivation, the ancient seers and philosophers of India approached the concept of motivation from a much broader perspective.
- It was as early as the Vedic times, that the seers of India probed into human behaviour to understand the forces that drove people to

indulge in specific actions, behaviour, goals, and attitudes, and their implications to human life, suffering and salvation.

- Life itself means movement and activity (chaitanyam). Human beings cannot live without performing actions.
- Beings are subject to desires because they are imperfect and incomplete. By seeking things through actions, they try to make up for their lack of perfections and completeness.
- Only Isvara or Brahman (Supreme God) is not motivated by any desire or need to perform actions because he is complete and perfect in all respects.
- The Bhagavad-Gita and several other scriptures explain the Hindu theory of motivation in great detail.
- Buddha's theory of human motivation is based on certain key factors shared by all human beings. His theory of motivation is primarily concerned with the nature of human dissatisfaction (dukkha) and how to dispel it.
- In the suttas, human beings are said to be motivated by craving (tanha, literally 'thirst') of three types.
- Kama tanha – this is a craving for sensory gratification, sex, novel stimuli, and pleasure.
- Bhava tanha – this is a craving for survival or continued existence. It also includes hunger and sleep as well as desire for power, wealth and fame.
- Vibhava tanha – this is a craving for annihilation, non-existence, also associated with aggression and violence towards oneself and others.
- These three basic drives have been compared to the Freudian drive theory of libido, ego, and thanatos respectively (de Silva, 1973).
- The suttas have three "unwholesome roots" (akusala mulas) of suffering, negative emotions and behavior: raga (passion or lust); dosa (hatred or malice); and moha (delusion, or false belief). These are opposed by three wholesome roots which are liberality, kindness and wisdom.
- A simple contemplative psychological view of personality in Hindu Indian thought is given in the *Rig Veda* and again in the *Mundaka Upanishad* (Kuppuswamy, 2001). It is given as a story of two birds.
- A more elaborated version of personality that reflects the Great Nest of Being is given in the *Katha Upanishad* (Kuppuswamy, 2001; Zimmer, 1978).
- The result is that the impure, self-willed, unsteady person misses the goal and is born again and again. (Swami & Yeats, 1937, p. 32). The

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goal referred to here is realization of *Atman* as *Brahman* or salvation (*moksha*).

- A complex psychology of personality types (Pali: Puggala-paññatti), personality traits and underlying tendencies (anusaya) is developed by Buddhism.
- The Buddhist scholar Asanga wrote *Levels of Listeners* and listed seven personality types.

7.6 KEY WORDS

- **Upanishad:** It refers to any of a class of the Sanskrit sacred books probably composed between 400 and 200 BC and embodying the mystical and esoteric doctrines of ancient Hindu philosophy.
- **Jainism:** It is a religion of India originating in the sixth century BC and teaching liberation of the soul by right knowledge, right faith, and right conduct.
- **Scriptures:** It refers to writings that are regarded as holy in a particular religion, for example the Bible in Christianity.

7.7 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. State the Hindu and Jain theory of motivation. What are the seers' views on motivation?
2. What is the concept of personality in the Rig Veda? How is it different from that of Upanishads?

Long Answer Questions

1. Give a detailed description of the Buddhist theory of motivation.
2. What is the Buddhism theory of personality? Discuss Theravada, Mahayana and Vajrayana in detail.
3. What are the seven personality types as listed by the Buddhist scholar Asanga?

7.8 FURTHER READINGS

Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.

- Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.
- Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.
- Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.
- Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

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BLOCK - III

PSYCHOLINGUISTICS IN PSYCHOLOGY

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**UNIT 8 PSYCHOLINGUISTICS,
MEMORY AND DECISION
MAKING**

Structure

- 8.0 Introduction
- 8.1 Objectives
- 8.2 Language Structure
 - 8.2.1 Theories of Language
 - 8.2.2 Neurological Basis of Language
- 8.3 Language Acquisition: Stages in Language Development
- 8.4 Memory Processes
 - 8.4.1 Theories of Forgetting
 - 8.4.2 Models of Memory
 - 8.4.3 Biological Basis of Memory
 - 8.4.4 Strategies to Improve Memory-Cognitive Strategies
 - 8.4.5 Theories of Thought Processes
- 8.5 Concept Formation
- 8.6 Creativity
- 8.7 Problem Solving and Decision Making
- 8.8 Answers to Check Your Progress Questions
- 8.9 Summary
- 8.10 Key Words
- 8.11 Self Assessment Questions and Exercises
- 8.12 Further Readings

8.0 INTRODUCTION

Psycholinguistics or psychology of language is the study of the psychological and neurobiological factors that enable humans to acquire, use, and understand language. Initial forays into psycholinguistics were largely philosophical ventures, due mainly to a lack of cohesive data on how the human brain functioned. Modern research makes use of biology, neuroscience, cognitive science, and information theory to study how the brain processes language. There are a number of sub-disciplines; for example, as non-invasive techniques for studying the neurological workings of the brain become more and more widespread, neurolinguistics has become a field in its own right.

8.1 OBJECTIVES

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

- Understand the language structure and theories of language
- Discuss the neurological and biological basis of language
- Learn the process of improving memory cognitive strategies
- Describe the process of problem solving and decision making

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8.2 LANGUAGE STRUCTURE

A major feature that distinguishes human beings from animals is their ability to use vocal speech as a means of communication. Sometimes the words 'speech' and 'communication' are used as if they meant the same thing. Speech is the most important form of communication. Communication has these forms: (i) speech, (ii) facial and body movements that show different emotions, (iii) touch, (iv) sign language used by the deaf, (v) arts such as music, dance and painting, and (vi) written symbols or words.

Broadly speaking, the tools of communication may be categorized under two heads—signs and symbols. Symbols are unique to human beings.

Language permits the communication of information from one generation to the other. Language makes available the wisdom as well as the errors of the past to the present generation.

Largely, language performs the following functions:

- Language helps to communicate ideas to others
- Language helps in the formation of concepts
- Language helps in the analysis of complex wholes
- Language helps us to focus attention on ideas which would otherwise be difficult to keep in mind.

A psychologist takes interest in the structure of a language because in it he finds some aspects of human structure of thinking.

Elements of Language

Let us start by explaining the importance of meaning in understanding the various elements of language. Even though language is the medium in which we communicate meaning, it still cannot transfer meaning as the range of meaning itself is diverse. For example, there are covert meanings which refer to those ideas that are not communicated in language, but the meaning is implied. This aspect of meaning is highly subjective and varies from individual to individual. Language here only acts as the tool for communication. The process of deciphering meaning rests with the recipient.

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This, however, does not mean that language should be done away with. The second type of meaning is overt meaning. Meaning under this category is objective and obvious in nature. It is mostly used in formal gatherings and has a set format. Language here is deployed mainly to communicate facts. Language then emerges as a highly useful tool at the disposal of humans to decipher two orders of meanings.

Another important factor that influences meaning is the recipient's range of factors which can vary from his/her ability to understand language, level of comfort with the spoken language as well as his/her existing knowledge bank. If spoken in a group, the same thing can evoke a different set of responses in different people. The meaning appended given to any message can be the exact same of the deciphered meaning. In addition, there are multiple factors that shape the meaning making process in an individual.

Given the particular instance of a word or a phrase, meaning is usually formed with the help of surrounding words or phrases. For example, if a person does not understand a specific word in a sentence, with the help of the overall essence of the sentence, meaning of the one particular word can be guessed.

For instance A: The drama was too maudlin; it made me cry.

In the above given statement, if someone does not understand the specific meaning of the word 'maudlin', he/she can nevertheless decipher that it means sad as the latter part of the sentence provides a cue through the usage of the word *cry*. In the case of speech, paralanguage, meaning factors that are implied but not overtly stated, forms an important part of language. Elements in these are timing, stress, pitch, intonation, repetition etc.

The way in which textual grammar is deployed is very important in speech and language. The overall structure or syntax of the sender requires equal importance. The organization of words and phrases is very important as many a times the meaning can be anticipated by the speaker's style. In the cases where the audience or recipient has pre-existing knowledge of the speaker's style, meaning, especially non-verbal meanings, become easy to understand.

Another factor that may hold considerable sway over the meaning-making process is the way in which message is sent and received. Adding to this is the purpose of communication and the audience to which the message is directed. The environment in which the overall message is directed also plays an important role. For instance, if the leader of a political party has come to deliver his message then the gathering can expect a stock set of ideas being conveyed. In such cases the environment directs the course of speech and the process of deciphering meaning becomes easy.

The way by which a message is delivered, and the form in which it arrives, will inevitably have an impact on the receiver, too. The purpose of

the communication, and the audience to which it is directed, are also very relevant. The overall situation in which the communication occurs, and the local and more distant events surrounding it, also has an impact.

Things that influence the meaning-making process are often referred to as the context of the meaning. Context can have a variety of meanings ranging from the way in which it has been spoken to the environment in which it has been delivered. It also includes other aspects that surround a message.

Having stated the importance it is equally necessary to emphasize that language is not the only method of communication. A language is simply a system whereby words, sounds and the meaning attached to these are used to convey ideas. Language has gradually evolved over the ages. Many languages pervade the Earth and many are still in the process of getting formed but there are others that have been designed deliberately.

Within a community any language that has evolved spontaneously is deemed natural language. The basic essence of these languages is the effortless presence in our lives. Natural languages differentiate itself from artificial languages by virtue of the constructed nature of artificial languages. The most prominent example of this is computer language as well as languages that have been designed for human use such as Esperanto.

Effective communication can only take place if the sender and receiver share the same mode of language structure. This aspect of common language is mandatory is arriving at a fruitful mode of communication. The purpose of communication will be defeated if the sender and receiver do not share a common language.

Intricacies of language are many. Whether natural or artificial, language by definition will require a *code* which relies on a set of agreed rules for it to be effective and functional. The elements of a language are determined by these rules. While these rules are said to determine the way in which language is deployed it is nevertheless open to inflection. In other words, these are rather fluid.

Natural language has two basic elements: words and the rather fluid rules governing the usage of the words are generally called its grammar. Further, the contexts in which words are deployed are crucial to the whole meaning making process.

It may appear that language is rather easy to study but the truth is far from that simplistic approach. Numerous debates surrounding language have revealed its complex nature. Theories in linguistics especially have proved how language is indeed fluid and open to inflections. For instance, words that were in vogue in a few years ago have lost currency in the present day usage.

In order to understand the complexity of language, it may be said that words and the meanings that are ascribed to it form its most crucial element.

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There are various deliberate cultures and subcultures that ascribe meaning and sometimes even make that meaning redundant. Simply speaking, various socio-economic factors contribute in attributing complexity to language.

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Furthermore, grammar can no longer be thought of as a simple set of rules whereby sentences are constructed. Very often, patterns and sub patterns have been observed which impose meaning upon words and influence grammatical structures.

Activities like listening, speaking, reading and writing in contingent upon various aspects of language most conspicuous among these are: listening, speaking, reading and writing, depends on vocabulary, grammar and context. Looking at the versatile nature of language it can be said that information encoded in natural language can be exchanged in the way in which it has been spoken or written and the subsequent way in which it has been perceived and read.

Let us now look at the four elements of language carefully:

- Words
- Grammar
- Speech and writing
- Alternative symbols or codes

Words

Words form the most basic requirement of language. Those who wish to communicate using a language ought to know to have knowledge of a basic number of words. For effective communication to take place, the person must have a sufficient reserve of words and its corresponding meaning. This is known as vocabulary. Each individual has a different set of vocabulary. It is important to understand the concept of the term vocabulary as well, as each word has more than one meaning. Having a vast vocabulary will allow the individual to use words more judiciously but will also heighten the style of speech or writing. Listening, speaking, reading and writing, depends on vocabulary, grammar and context.

Many a times a word does not look, sound or feel like the thing that it is deployed to convey. Though there are a few examples in which the meaning of a word is compatible with its sound. These are called synonyms. By and large, whenever a word is used its representation is synonymous with its usage which means that it represents the thing for which it has been deployed.

In instances where there are multiple meanings, the use of that word might cause a degree of uncertainty or doubt. In such cases, the context clarifies the meaning. The scope of arriving at multiple meanings is vast in natural languages as the context is immense. In these languages, very often, one word has more than one possible meaning.

Even though there are many meanings allotted to one word, it is still more precise than other modes of representation such as gestures or a pictographic representation. As pointed out earlier, the conscious judicious use of words saves time and heightens accuracy.

Grammar

Despite being precise, efficient and convenient, words still require a structure which imposes further clarity on it. These structures are called grammar. No longer understood as a set of rules, grammar extends information that is detrimental in understanding not just language but its subtle nuances as well. Meaning with the help of grammar is arrived at with an understanding of specific contexts.

In the absence of this structure which hold the sentence together, words may lose its meaning. Grammar imposes order and renders the sentence intelligible without which words (no matter how advanced they may be) lose meaning and coherence. Its formulaic nature puts the sentence in order thereby making it clear and easy to comprehend.

Because grammar came into existence much later than language its growth and evolution has been haphazard. This in turn has resulted in various contradictions within grammar! Some rules that are by and large applicable to all sentence constructions are not applicable in a few cases. These anomalies make grammar difficult to understand and master even though if learnt at an early age it may come effortlessly to children.

Speech and Writing

The combined knowledge of grammar and vocabulary come together in a certain context to make the information easily to the recipient.

As it has been widely observed, when information needs to be transferred, it may need a change in medium as well. Here encoding becomes very important as it allows the required information to get recorded suitably. Perhaps the most useful example is the recoding of *audible* speech into *visible* writing.

In English, words are recognized by the way they sound. Further, symbols help in the formation of words. Even numbers are a part of this schema. The *alphanumeric characters* from which the text you are reading is constructed provide an example of this approach. Spellings and pronunciation of words must be agreed upon so that the written word may correspond with meaning of that word.

A few dominant exceptions to this rule prevent a word from being understood or may cause a misunderstanding.

For those who learn a language in early childhood, many of the things discussed above are learned almost automatically — though reading and

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writing require specific learning efforts. For those who are learning a new language as an adult, the learning of all the prerequisites requires considerable effort. Similarities, if any, between the new language and a language already known, naturally lessen the difficulty of the process.

Alternative Symbols or Codes

People with hearing difficulties or those who are visually challenged used a code for deciphering meaning. In the case of the former, the person with hearing disability will use speech that has been turned into print and in the case of the latter a highly developed language known as Braille is used. The various *sign languages* used by people whose hearing is impaired are examples of another way of recoding speech to allow it to enter via the visual input. Alternatively, if vision is impaired, alphanumeric characters can be made palpable, usually in the form of the *Braille* symbols which were mentioned under Inputs, so that words can be recognized by the way they feel.

Even pictographic representations are used in some languages. Pictograms are representations that have been graphically done to come as close to the desired object of representation. This results in a very large number of characters, which takes a great deal of time and effort to learn. On the other hand, these languages can be very efficient, concise and economical as it can encapsulate an entire idea.

A message consisting of words may thus be received by any of the three main inputs: visual, auditory or tactile. Writing, printing, pictograms and sign language can be seen; spoken words or words reproduced via loudspeakers or headphones can be heard; and Braille symbols can be felt.

8.2.1 Theories of Language

Let us discuss the different theories of language.

1. The Behaviourist Perspective

- This perspective considers language development to be entirely a result of environmental influences.
- Through operant conditioning, parents reinforce their baby's sounds that mostly sound like words.
- Imitation combines with reinforcement to promote language development.

2. The Nativist Perspective

This view states that children are born with a biological based system—called the language acquisition device (LAD)—for mastering language.

- Chomsky maintained that the LAD contains a set of rules common to all languages; thus, children speak in a rule-oriented way from the beginning.

- Children all over the world tend to master language milestones in a similar sequence—evidence that fits with Chomsky’s ideas.

3. The Interactionists’ Perspective

- This view postulates that the language achievements happen due to the interaction of innate abilities and environmental influences.

Native capacity, a strong desire to interact with others, and a rich linguistic and social environment contribute to promoting a child’s language capacities.

8.2.2 Neurological Basis of Language

The neural basis of language consists of the Broca’s area, the Wernicke’s area and the arcuate fasciculus (AF) which connects these two cortical areas. The neural basis of language was primarily considered as a simple model which later turned into a complex model. The recent advancements in neuroscience such as diffusion tensor imaging studies, precise imaging studies of aphasic patients, functional magnetic resonance imaging studies, and electrophysiological studies with cortical and sub-cortical stimulation during awake surgery brought complexities in this model. Language is processed through two distinct pathways in the present model, the dorsal stream and the ventral stream. The core of the dorsal stream is the superior longitudinal fasciculus/AF, which is associated with phonological processing. On the other hand, semantic processing is done mainly with the ventral stream consisting of the inferior fronto-occipital fasciculus and the intra-temporal networks. The frontal aslant tract has recently been named the deep frontal tract connecting the supplementary motor area and the Broca’s area and it plays an important role in driving and initiating speech. Every neurosurgeon should have basic knowledge of the neural basis of language.

Check Your Progress

1. Mention the different forms of communication.
2. What are the four elements of language?
3. What does the Nativist perspective of language state?

8.3 LANGUAGE ACQUISITION: STAGES IN LANGUAGE DEVELOPMENT

A major feature that distinguishes human beings from animals is their ability to use vocal speech as a means of communication. Sometimes the words ‘speech’ and ‘communication’ are used as if they mean the same thing. Speech is the most important form of communication. Communication has these forms:

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- Speech
- Facial and bodily movements that show different emotions
- Touch
- Sign language used by the deaf
- Arts such as music, dance and painting
- Written symbols of words

Broadly speaking, the tools of communication may be categorized under two heads—signs and symbols. Symbols are unique to human beings. Language permits the communication of information from one generation to the other. It makes available the wisdom as well as the errors of the past to the present generation.

Also, language performs the following functions:

1. Language helps to communicate ideas to others
2. Language helps in the formation of concepts
3. Language helps in the analysis of complex wholes
4. Language helps us to focus attention on ideas which would otherwise be difficult to keep in mind

A psychologist takes interest in the structure of a language because in it he/she finds some aspects of human structure of thinking.

Sequence of language development

The sounds, words and sentences are the stages in language development. The first cry or sound uttered by a child is its cry of birth. Crying, babbling and gestures are all important forms of pre-speech communication. The mother starts talking to the child right from the moment of birth. She converses when she changes the clothes of the infant. She converses when she feeds the infant. She converses when she gives a both to her infant. In this way, the sound making behaviour is reinforced. It is pleasant for the parents to listen the sounds made by the infant. It becomes a rewarding experience for the child.

Crow and Crow (1962) pointed out the sequential steps of progress in language development:

1. Feeble gestures and sounds
2. Babbling
3. Use of simple spoken vocabulary
4. One word sentence
5. Combination of words into sentences
6. Development of skill in reading
7. Improved mastery of the tools of communication

Gessel and Thompson (1934) reported about language growth that most babies observe cooings when they are 12–16 weeks old. They are able to combine some vowels and consonants and repeat them in succession when they are five to six months old. They can speak one word or more when they are one-year old.

Lynip (1951) recorded voice samples of an infant for 56 weeks beginning with its birth cry. With a sound spectrograph, he analysed these records and noted that the infant did not produce a single vowel or consonant sound comparable to adult vowels or consonants until about the age of one year. Thorndike and Lorge (1944) spent a number of years in counting the words which were used in popular magazines and children's books, etc., in America. It was found that the word 'I' was used most often.

Development and Levels of Language

Language use has two aspects—production and comprehension. In the production of language, we start with a thought, somehow translate it into a sentence, and end up with sounds that express the sentence. In the comprehension of language, we start by hearing sounds, attach meanings to the sounds in the form of words, combine the words to create a sentence, and then somehow extract meaning from it. Language use seems to involve moving through various levels. At the highest level are sentence units, including sentences and phrases. The next level is that of words and parts of words that carry meaning (the prefix or the suffixes, for example). The lowest level contains speech sounds; the adjacent levels are closely related. The phrases of a sentence are built from words and prefixes and suffixes, which in turn are constructed from speech sounds. Language is therefore a multilevel system for relating thoughts to speech by means of word and sentence units (Chomsky, 1975). The following are the levels of language:

Speech sounds: We do not perceive the person's speech as a continuous stream of sound but rather as a sequence of phonemes, or discrete speech categories. For example, the sound corresponding to the first letter in 'boy' is an instance of a phoneme symbolized as 'b'. Every language has a different set of phonemes. When phonemes are combined in the right way, we perceive them as words. Each language has its own rules about which phonemes can follow others.

Word units: Unlike phonemes, words carry meaning. However, they are not the only small linguistic units that convey meaning. Suffixes such as 'ly' or prefixes such as 'un' also carry meaning. They can be added to words to form more complex words with different meanings. The term 'morpheme' is used to refer to any small linguistic unit that carries meaning. The most important aspect of a word is its meaning. Some words are ambiguous because they name more than one concept.

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Sentence units: As listeners, we usually combine words into sentence units, which include sentences as well as phrases. An important property of these units is that they can correspond to parts of a thought, or proposition. Such correspondences allow a listener to extract propositions from sentences.

Phrases and propositions: Analysing a sentence into noun and verb phrases, and then dividing these phrases into smaller units like nouns, an adjective, and verbs, is syntactic analysis. Syntax deals with the relationships between words in phrases and sentences. Syntax primarily serves to structure the parts of a sentence.

Check Your Progress

4. What is the major feature that distinguishes human beings from animal?
5. What are the two aspects of language use?

8.4 MEMORY PROCESSES

Memory starts with learning. The four stages of memory are:

- (i) **Learning:** Learning starts with encoding. The process of encoding is to translate the sensory information or simply the stimulus around into codes so that they can be stored and later retrieved when needed. The information in the memory can be done by two coding systems verbal and non-verbal i.e., use of imagery. The information in the short-term memory is stored in the forms of chunks. A chunk may be a letter or digit or a combination of letters and digits each combination being a chunk.
- (ii) **Retention:** The next step in memory is called retention. Retention means storage of the information, retaining the residues of experiences. The retention may be at the conscious or sub-conscious level. Sometimes, we are able to recall things very easily without any effort this is the conscious state but sometimes somebody else reminds us of certain things this is sub-conscious level and at the un conscious level the things cannot be recalled.
- (iii) **Recognition:** Sometimes recall comes after recognition as, for example, when we recognize an old friend the moment we see him, and then we are reminded of good things about him. On other occasions, it is recall which precedes recognition. Sometimes, it happens we are going somewhere and someone asks us whether we have recognized him or not, and when he describes about himself we recognize the person. This shows that recognition sometimes follows a recall.

- (iv) **Recalling:** Recalling the information also depends upon how the information is encoded in the long-term memory the meaningful information is recalled better than the meaningless information. Sometimes recalls come after recognition; for example, we see our old house and we are reminded of many pleasant memories related to that house. But sometimes we do not recognize a person who approaches us and asks us whether we have recognized or not and then we realize and recall that he was our old neighbour.

Tip of the tongue phenomenon in recall or retrieval is an important part in the process of memorization.

Sometimes we have a feeling that we know something for sure but are unable to recall it, this is referred to as “tip of the tongue state”. The individual feels that he has all the relevant information but the exact word does not come to the tip of the tongue. The words which come to mind are quite similar in meaning and sound to the ‘target word’ which the individual wants to recall.

8.4.1 Theories of Forgetting

Forgetfulness is usually regarded as a liability and memory as an asset. It is the opposite of learning. Forgetfulness is considered as an evil of life as several times necessary things are forgotten but not the unnecessary ones.

We come across different kinds of experiences every day. As a matter of fact, every minute we get many impressions about many things. However, we cannot remember all these impressions and it is not essential to do so. We must be selective in remembering and forgetting. It is important for us to forget several experiences daily. To remember, we must forget. We forget to remember. We should make all possible attempts to remember only those facts which are useful for us.

Forgetting is the opposite of learning. In learning, the learner keeps an experience in memory while in forgetting he fails to bring it to the conscious mind what he has remembered.

The following definitions would help us to understand the nature and concept of the word ‘forgetfulness’.

According to Adams, “True learning is judicious forgetting.”

James Drever observed, “Forgetting means failure at any time to recall an experience when attempting to do so, or to perform an action previously learned.”

Nunn stated, “Forgetting is failing to retain or able to recall what has been acquired.”

According to Freud, “Forgetfulness is voluntary for it is on account of unwillingness to remember.”

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Watson, on the other hand, was of the view that forgetfulness is caused by the absence of verbal association.

Theories of Decay

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There are nine major theories of decay:

1. Theory of Disuse
2. Theory of Interference
3. Theory of Trace-Change
4. Forgetting as Retrieval Failure Theory
5. Motivation and Forgetting Theory
6. Consolidation and Retrograde Theory
7. Lack of Organization Theory
8. Psychoanalytical Theory of Forgetting

- 1. Theory of Disuse:** The common view is that forgetting is a process of fading with the passage of time. According to this view, impressions created by learning fade away with the passage of time. We meet a man and forget his name after some time. Tolman Conard and Brown tend to support this view. McGeoch, on the other hand, does not accept this view.
- 2. Theory of Interference:** Forgetting occurs when memories of the same type interfere with each other. A possible explanation for this is that when two very similar brain patterns are involved, the wrong one may tend to be activated if it has been activated more frequently, more recently or more intensely in the past.
- 3. Trace Change Theory:** Forgetting, according to this theory, is attributed to changes in traces in the brain.
- 4. Forgetting as Retrieval Failure:** According to this theory, forgetting is not losing something but rather being unable to find it. Forgetting is often a temporary phase rather than a permanent phenomenon.
- 5. Motivation and Forgetting:** An experiment conducted by Zeigamik explained how motivation can influence retention. Subjects were able to recall incomplete task, as in their case, the motivation was not satisfied.
- 6. Consolidation Theory and Retrograde:** According to this theory, if the newly formed traces are not given time for consolidation and they are disturbed, they would be wiped out.
- 7. Lack of Organization Theory:** Several people forget on account of lack of proper organization and systematization of the material learnt.

8. Change of Stimulating Conditions Theory: Forgetting takes place on account of changes in stimulating conditions. For example, a young man is used to playing a popular song on his flute. If he is given another flute, he may not be able to recall the same song. In this case, the forgetting is caused simply by a change in the stimulating conditions.

9. Psychoanalytic Theory of Forgetting: Certain unpleasant events, incidents and names associated with a sense of guilt or shame are automatically forgotten. Psychoanalytic approach suggests that an omission or an error in writing or a slip of tongue or inability to recall or recognize is on account of the unconscious desire to do so.

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8.4.2 Models of Memory

Waugh and Norman proposed the model of memory which had two structures primary memory which holds temporary information currently in use and secondary memory which stores information for a very long period of time or permanently.

Atkinson and Shiffrin proposed the memory model in terms of three stores: (a) Sensory store; (b) Short-term store; and (iii) Long-term store.

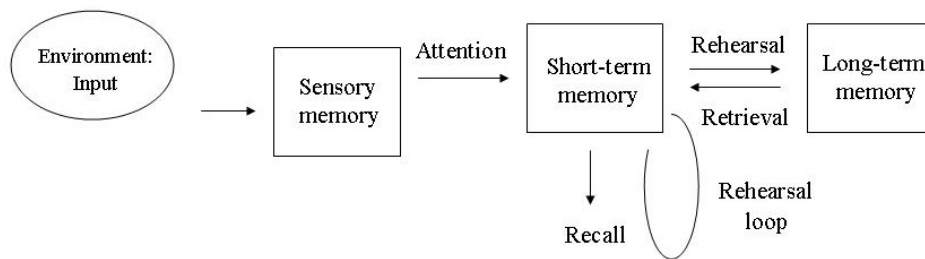


Fig. 8.1 Atkinson and Shiffrin's Memory Model

Two-Process Theory (Memory Information Processing Theory)

The two-process theory of memory can also be referred to as the 'memory information processing theory', which was first proposed by R.C. Atkinson and R.M. Shiffrin (1968). Memory processes differ between situations that require us to store material like less than a second, for a matter of seconds and for longer intervals ranging from minutes to years. Thus, the two processes are short-term memory and long-term memory processes (Fig. 8.2). These two processes will be discussed a bit later in the unit, first it is important to understand sensory memory.

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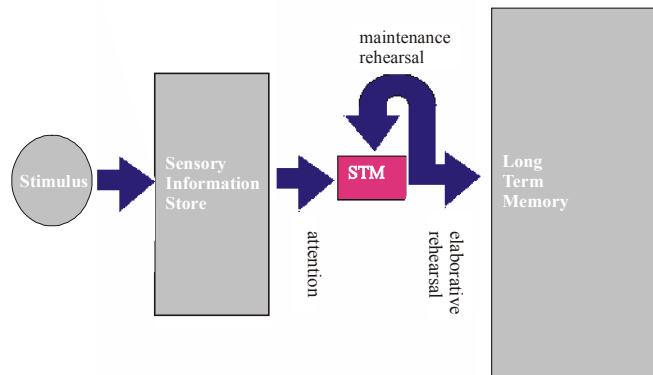


Fig. 8.2 Process Model of Memory (Atkinson and Shiffrin, 1968)

Figure 8.3 illustrates a detailed memory structure.

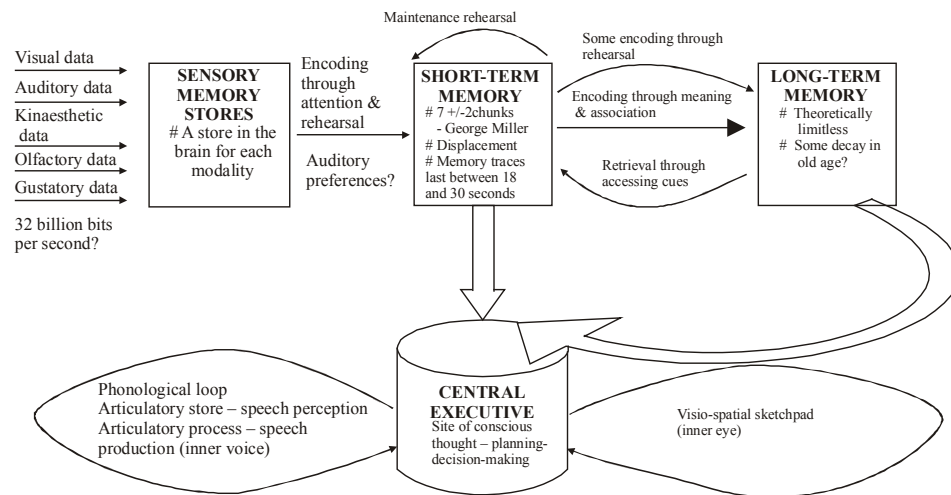


Fig. 8.3 Memory Structure

8.4.3 Biological Basis of Memory

Based on the Atkinson and Shriffrin model, memory is basically three types:

(i) immediate or sensory memory, (ii) short-term memory, and (iii) long-term memory.

(i) Sensory memory:

Sensory memory is the first stage of memory, here the information enters through different sensory systems like visual and auditory and other senses (G. Rainer and E.K. Miller, 2002).

Information is encoded into sensory memory as neural messages in the nervous system. As long those neural messages are travelling through the system, people have a memory for that information that can be accessed if needed. During morning walk, thousands of stimuli come

across our fields of vision and hearing—chirping birds, a noisy motor cycle, the blue sky, etc., but we do not process all stimuli. We process many more stimuli at the sensory level that we noticed consciously. Sensory memory retains this information from our senses, including the ignored portion also. There are two kinds of sensory memory, viz., iconic (visual) and echoic (hearing) memories.

This type of memory helps the individual to recall immediately those events or things which have just occurred. The information stored in this type of memory is lost after a very short period of time or after the information is used by the individual. Like the number of the seat of the bus we forget after we occupy it, we remember it till we have not occupied the seat. The new information takes the place of the old information and the new information is erased.

- (ii) **Short-term memory:** This type of memory is also for a very short period of time, but it is not as short as in the case of immediate memory. The impressions do not erase very easily. The sensory impressions retained in the immediate memory are either immediately erased or transferred to the short-term memory. The sensory information stored in the short-term memory is lost in a very short period of time, if that information is not rehearsed or is transferred to long-term memory. The duration of the information in short-term memory last from 3 to 20 seconds. The sensory information in short-term memory is encoded in the forms of visual and auditory impressions, signs words etc., the encoding in the short-term memory is not systematic. There are no rules or principles followed in the encoding process.

It has been proved by many experiments that only five to nine items can be stored in the short-term memory. In short-term memory there are three basic operations:

- **Iconic memory:** The ability to hold visual images.
- **Acoustic memory:** The ability to hold sounds. Acoustic memory can be held longer than iconic memory.
- **Working memory:** An active process to keep it until it is put to use.

Difference between sensory memory and short-term memory: The retention time is less than one second in sensory memory. Sometimes, the retention time goes up to five seconds to auditory stimulus. This means that if the stimulus is in form of a sound then it remains for a longer period of time than other types of stimulus whereas in short-term memory the information last up to 30 seconds even if the information is not rehearsed or practiced in the short-term memory. Span of memory that means how much information can be retained at a point of time is more in sensory memory than the short-term memory. Span of retention

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in sensory memory is generally 11 to 16 items for a half a second in short-term memory this span is 5 to 9 items. The information stored in the sensory memory is deleted or completely erased or sometimes it gets transferred to the short-term memory, whereas the information in short-term memory is lost if it is not practised or rehearsed. If the learner makes an attempt than the information after many repetitions gets transferred to long-term memory. Forgetting is almost immediate in sensory memory whereas in the short-term memory the forgetting is considered to be purposive and deliberate. The old information is erased to give place to new information.

- (iii) **Long-term memory:** Long-term memory has a limitless capacity to store information. The information stored in the long-term memory is permanently retained and does not get erased and that is why it is also called “permanent memory”. The duration of the information is up to lifetime. Though the individual may face problems in recollecting the information from the long-term memory because the cues needed to retrieve the information are not complete, but forgetting is minimal from long-term memory store. The encoding process is very structured, planned and organized. Encoding is done on the basis of meanings and other important characteristics related to the piece of information.

Long-term memory involves the information you make an effort (conscious or unconscious) to retain, because it is personally meaningful to you (for example, data about family and friends); you need it (such as job procedures or material you are studying for a test); or it made an emotional impression (a movie that had you riveted, the first time you ever caught a fish, the day your uncle died). Some information that you store in long-term memory requires a conscious effort to recall: episodic memories, which are personal memories about experiences you have had at specific times; and semantic memories (factual data not bound to time or place), which can be everything from the names of the planets to the colour of your child’s hair. Another type of long-term memory is procedural memory, which involves skills and routines you perform so often that they do not require conscious recall.

Explicit memory

Explicit memory is the conscious recollection of information, such as specific facts or events and, at least in humans, information that can be verbally communicated (Tulving, 1989, 2000). Examples of using explicit memory include recounting the events of a movie we have seen and describing the basic principle of psychology to someone.

Canadian cognitive psychologist, Tulving (1972, 1989, and 2000) has been the foremost advocate of distinguishing between two subtypes of explicit memory—episodic and semantic. Episodic memory is the retention

of information regarding the 'where' and 'when' of an individual's life. It is autobiographical; for example, episodic memory includes the detail of what it was like when our younger brother or sister was born, what happened on our first date.

Semantic memory is a person's knowledge about the world. An important aspect of semantic memory is that it appears to be independent of an individual's personal memory of the past. Another aspect of explicit memory, which is currently a hot topic, is the difference between retrospective memory (remembering the past), and prospective memory (remembering information about doing something in the future) (Burgess, Quayle, and Frith, 2001; Graf, 2004; Kliegel and others, 2001; McDaniel and Einstein, 2000). Prospective memory includes memory for intentions. Some failures in prospective memory are referred to as 'absentmindedness'. We become more absentminded when we become preoccupied with something else, or are distracted by something, or are under a lot of time pressure (Matlin, 2004).

Implicit memory

Another type of LTM is related to unconsciously remembering skills and perceptions rather than consciously remembering facts.

Implicit memory is memory in which behaviour is affected by prior experience, without that experience being consciously recollected. Examples of implicit memory include the skills of playing tennis and typing, as well as the repetition in our mind of a song we heard in the supermarket, even though we did not consciously attend to the music. The subsystems of implicit memory consist of memories that we are not aware of, yet predispose us to behave in certain ways (Schacter, 2000).

- **Procedural memory:** Procedural memory involves memory for skills. For example, once we have learnt to drive a car, we remember how to do it; we do not have to consciously remember how to drive the car as we put the key in the ignition, turn the steering wheel, push on the gas pedal, hit the brakes, and so on.
- **Priming:** Priming is the activation of information that people already have in storage to help them remember new information better and faster (Badgaiyan, Schacter, and Alpert, 2001; Huber and others, 2001). However, priming can lead to false memories.
- **Classical conditioning:** Classical conditioning is a form of learning. Classical conditioning involves the automatic learning of associations between stimuli. For instance, a person who is constantly criticized may develop high blood pressure or other physical problems. Classically conditioned associations involve implicit, unconscious memory.

The information stored in long-term memory affects the process of perception, and influences what information the individual will attend to from

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the environment around. The information is stored in the form of schemas in the long-term memory.

‘Schemas’ are the mental models of different objects in the world in the mind. These schemas are the detailed knowledge structures present in the long-term memory. The schemas are organized in the long-term memory and the schemas of similar information are connected to each other. All the schemas related to one type of information gets activated and all the information related to a concept is recalled and all irrelevant information is not perceived this is how the individuals interprets the objects and situations around them.

Episodic memory: This type of memory is related with the episodes in the life of a person. These episodes are the events and experiences associated with one’s life. For example, for a married person some important episodes of his life will be his marriage, birth of a child, which will be a part of his long-term memory which he will never forget during his entire lifespan. Similarly, a person who has witnessed a major accident will never be able to forget throughout his life and it will be permanently stored in his long-term memory, and he will be able to recall it at any later stage of his life and narrate all the experiences related to this episode.

Semantic memory: Semantic memory is not related to events or episodes in the life of person but it is related to the ideas, meanings and concepts.

This semantic memory is concerned with the knowledge of concepts which are more general in nature than the individual events in the life of a person. This type of memory is helpful during the childhood stage when the concepts are being formed. Semantic memory helps in forming a generalized picture of the world. Semantic memory is important in doing new and learning about new situations.

This type of memory is based on generalized rules, principles and formulae. In the long-term memory, all the experiences and events are encoded in the form of language and can be retrieved when needed.

Difference between short-term memory and long-term memory: The duration of information in short term is only for 30 seconds or less. The duration of information in long-term memory can be for the entire life. Not more than 5 to 9 items can be stored in long-term memory, whereas long-term information has a limitless capacity to store different types of information. The information in the short-term memory is not organized and structured. There are no rules to store the information, but in long-term memory the encoding process is planned, organized and structured. In semantic memory, the information is organized on the basis of the meanings of the words. Information in short-term memory is very short-lived and decays after a very short period of time, whereas the information in long-term memory is not

completely erased though there may be difficulty in retrieving the information but the information is not completely forgotten.

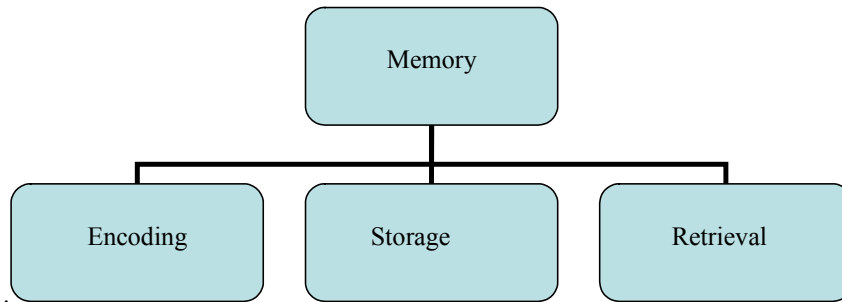


Fig. 8.4 Different Stages of Memory

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8.4.4 Strategies to Improve Memory-Cognitive Strategies

Some parts of the brain have a very important role to play in memory. The three areas of the brain which contribute to memory are hippocampus, amygdala and cerebral cortex. The most important part is the **hippocampus**, which helps in processing the information. The **amygdala** is another area near the hippocampus which processes emotions and stores memories that involve emotion and The third area called **cerebral cortex**, forms the outer layer of the brain, and it stores the information present in the long-term memory in different zones, depending on the factors as to how the information is processed like language formation or sensory input, problem-solving, etc.

Most of us might have complained about our memory one time or other. However, some of us have been frequently complaining about our poor memory. When we generally talk about poor memory we are really talking about poor recollection. Recollection is possible only if the content is retained in memory. This is possible only if we have recorded it into memory. That is, unless we have not assimilated, we cannot recall at all. That is why William James, usually thought of as the fathers of psychology, and many others including mnemonists give emphasis to how we record things into our memory.

Even if we record something correctly in our memory, we may not be able to recall it. This is due to many reasons, the main reasons being problems in retention and stress. The former can be solved by systematic revision and the latter by practicing some Stress Management Techniques.

Steps for memory improvement are as follows:

- (i) We must be in a relaxed mood.
- (ii) We must write down the things that we are supposed to remember in a piece of paper.

- (iii) We must read it aloud (if possible) once or twice and recite it two to three times.

By following the steps mentioned, we will surely retain the item longer and find it easier to recall it when in need.

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The person chooses the method and techniques according to the demands of the situation. Some of these methods used for memorizing are as follows:

1. Whole and part method

There are two methods of remembering a piece of information. For example, a student wants to learn one whole chapter. One method is to learn the chapter as a whole. This is the whole method of memorization. The other method is to divide the poem into different parts and each part is memorized as a separate unit. The whole method is useful and the success rate of memorization is more if the piece of information is short. This method is less time taking also. Part method is useful when the information to be learned is quite lengthy and detailed.

2. Method of distributed and massed practice

In the distributed or space method, the complete information is not remembered in one go rather after memorizing some part of the information for some time, the rest is given to the learner after repeated intervals of time. In massed or unspaced method of memorizing no break is given to the learner. The whole information is memorized without any rest in one go.

For memorizing long detailed information, spaced or distributed method is better. This method breaks the monotony of the work and proper rest again motivates the learner to put in extra efforts to memorize the detailed piece of information. In spacing at each learning session, the context of encoding may differ. The individuals may use alternative strategies and cues for encoding. It is difficult to say which method is better because both has a set of advantages and disadvantages and depends upon the skills of the learner and also the environmental conditions.

There are three stages that the brain goes through in forming and retaining memories: (a) stages of memory foundation and maintenance are acquisition, (b) consolidation, and (c) retrieval.

- (a) **Acquisition:** This means the information enters the brain through nerve cells and gets encoded. Encoding is only successful if attention is concentrated intentionally. If the learner is not focused then the information does not get encoded and is lost. That is the reason why we have to pay attention to memorize any piece of information. Distractions can cause loss of attention and ultimately no acquisition.

- (b) **Consolidation:** The acquisition of any information leads to the next stage of consolidation. If the information is encoded then the hippocampus processes the information and it is stored in the long term memory. If the subject is able to relate the current information with the past learning then the consolidation will be better. Emotional responses are also consolidated easily.
- (c) **Retrieval:** In recalling the information, the brain has to activate the same pattern of nerve cells it has used to store it. The more frequently you need the information, the easier it is to retrieve it along healthy nerve cell connections.

‘Mnemonics’ is a method of remembering items by imposing a structure of organization on the material to be memorized. This method serves as a set of clues to remember pieces of information by associating the information with a visual image, a sentence, or a word. The three basic principles of mnemonics are imagination, association and location.

3. Imagination

We all tend to learn verbal material better when we connect them with some visual image. The images strengthen the associations needed to create effective mnemonics. For example, all manufacturers use imagery in brand name of their products so that their brands are easily remembered by people. Charlie Chaplin’s image is associated with shoe polish. Pleasant images are stored and recalled easily than the unpleasant ones. Unpleasant images are blocked by the brain and cannot be recollected.

4. Association

By association, people link a thing to be remembered to a way of remembering it. Associations can be created by merging two images together or by relating two things with same colour, shape or smell or placing things on top of each other.

5. Location

With location the things to be remembered can be linked. Different locations may be related with different things. For example, linking Delhi with few things and relating Mumbai with the other things.

According to Koriat and Goldsmith (1996), to preserve or enhance the integrity of memories during consolidation we may use various metamemory strategies. Metamemory strategies involve reflecting on our own memory processes with a view to improving our memory. Some of the metamemory strategies are discussed as follows:

- (i) **Rehearsal:** Rehearsal means the repeated recitation of the information to be learned. Rehearsal can be overt or covert. Overt means when

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the rehearsal can be observed by others. Covert means when the rehearsal is silent and cannot be observed by others. The effects of such rehearsal are called “practice effects”. A learner must transfer the information by rehearsal to long-term memory. There can be two types of rehearsal—elaborative rehearsal and maintenance rehearsal. In elaborative rehearsal, the individual tries to elaborate the meaning of information to be remembered and also tries to connect with the information which is known to him. “Maintenance rehearsal” means repeating the information without elaborating. Such information is not passed to long-term memory because it was not related with already known information.

(ii) **Organization of the information:** According to Best (2003), mnemonic devices are specific techniques to help us memorize lists of words. There are a number of techniques to memorize, which are as follows:

- **Categorical clustering:** One organizes a list of items into a set of categories. For example, if you want to remember a list of words of different types then the items can be clustered into different categories like colours, fruits, vegetables, etc.
- **Interactive images:** This technique focuses on association of each new word with a word on a previously memorized list and forms an interactive image between the two words. Interactive images can be created to relate the isolated words in a list. For example, if the unrelated words like road, shop, pencils, table are to be remembered then these words can be memorized by generating interactive images. For example, you can imagine you are going on a road which has many shops the shops sell pencils and table.
- **Peg word system:** Associate each new word with a word on a previously memorized list and form an interactive image between the two. For example, in one of the experiments cited one list of words was from a nursery rhyme where one is a bun. Two is a shoe, three is a tree, four is a door and so on. To learn new words containing socks, apples and a pair of scissors the list was memorized by visualizing an apple between buns, a sock stuffed inside a shoe and a pair of scissors cutting a tree.
- **Method of loci:** In the method of loci, one visualizes walking around an area with distinctive landmarks that one knows well. One then links the various landmarks to specific items to be remembered. For example you have four landmarks on your way to office the old house, a big tree, tall building and a small bridge. The list of words to be remembered is an apple, a pair of socks, a bun and a pair of scissors. Then you might imagine an apple on top of the old

house, a pair of socks hanging from the tree, a bun lying in front of the tall building and a pair of scissors in between the bridge.

- **Acronym:** In using acronym, one devises a word or expression in which each of its letter stands for a certain other word or concept. An example is IQ or USA. The following techniques may be used to improve the memory:
 - o **Choosing correct method to memorize:** Some people tend to learn better if the information is in terms of visuals. They are called visual learners. They prefer to see to memorize the information others prefer listening they are termed as “auditory learners”. They remember the information better if they hear the recorded information.
 - o **Strong determination:** The learner must have a sense of strong will and determination in order to memorize the information and later recall it when needed. If the learner lacks will then he will not be motivated to retain the information and reproduce it later.
 - o **Using as many senses as possible:** Learning is always better if more than one sense organs are used to obtain the information like the information about a particular object can be collected by knowing its colour, touching its texture, smelling it and tasting it. Likewise, audio-visual information is better received by the learner.
 - o **Repetition and practice:** Continuous rehearsal and practice of the information learned helps in easy recall. The things repeated and practised frequently are remembered for a long time. As goes the saying ‘practice makes a man perfect’.
 - o **Organize information:** The new information should be related with what is already known. Grouping and rhyming the information also facilitates the learning process. For example, if a number 267875432 has to be memorized; if we group them as 267 875 432 then it can easily be retained and recalled. Children learn the material easily if it is arranged in the form of a rhyme like 30 days hath September, April, June and November.
 - o **Positive attitude:** A positive frame of mind increases the learning effectiveness. Sometimes, if we have a negative attitude and we feel that the information is quite lengthy or difficult to learn then with this attitude the information is not stored and retained and becomes difficult to recall.

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6. Chunking

Perhaps, chunking is the oldest method used in memorization. It has already been mentioned earlier in the unit. In chunking method, the items to be

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memorized are divided into small and easily memorizable chunks or groups. This method works best when the order of the items is not important.

This method is found to be particularly well suited for memorizing multi-digit numbers (e.g., ID numbers, telephone numbers., etc.) and for committing complicated spellings to memory.

If possible, we can organize the material as meaningfully as we can and think out relationships among each group. This not only improves learning ability and retention, but also aids in faster and effortless recollection.

7. Rhyming

This is also one of the popular and oldest methods in memorization. This technique makes use of the fact that we have a natural tendency to remember rhymes and rhythms. If possible, we can create rhymes and it will not only aid in improving our memory, but in improving our creativity as well.

8. Mediation/Bridging

In this method, a bridge is built in between the items given to be memorized. This technique is best suited for learning material involving word pairs or material that can be reduced to word pairs. An example often cited by memory experts is the learning of the capital of Poland. The capital of Poland is Warsaw. World War II started with Germany's attack on Poland. Thus, it may be arranged as Poland SAW War first.

Here, the word pair to be connected together is Poland and Warsaw. The additional information of the World War II is used as a bridge or mediator in bringing these two words together. Again, like other techniques, the mediation technique calls for the learner's active participation in the learning process. This is because one is to bring in the mediator or the bridge from relevant items one has learned.

9. Bed-time recital

In this technique, we do our recital or rote learning just before going to bed. The mind in the process of sleeping would then arrange the information in a systematic and effective way when we are sleeping. Psychologists have also found that if we sleep after thinking about your problems there is a better chance that you arrive at a solution the next day.

10. Sudden recall

All of us apply this method knowingly or unknowingly. Sometimes when we try to recall we may not be able to recall it at that time even if we are sure that we know it very well. We experience a blocking that prevents us from recalling it. Normally, we tend to try again and again, but in vain. To handle this situation we just have to keep away from trying to recollect it and do something else; to our pleasant surprise that information automatically pops

up into our mind after some time. This is because even if we stopped trying, the mind is searching for that information and brings it to awareness when it is found. Sometimes the information was blocked when we wanted, and mind brings it forward when the blocking is removed. This is where stress plays its role in hindering recall.

If we are very anxious by nature or very stressful in nature, we may encounter this type of blockage very often. In such case, it is highly recommended that we practise some kind of relaxation technique and thus keep our anxiety and stress away. This is very important because this behaviour can bring many undesirable psychological and physiological conditions. We may even consult a clinical psychologist in extreme cases.

8.4.5 Theories of Thought Processes

Thinking is a process like perceiving and remembering. Thinking is of several kinds, such as reverie, association, reasoning, imagination, day-dreaming. Various kinds of thinking are not absolutely separate from each other but merge into another. There is free thinking in reverie, whereas in association and reasoning, thinking is controlled. In reverie and day-dreaming, there is the least control. Creative thinking and reasoning are highly controlled processes. A number of concepts, when combined together result in what we call *thinking*. If the concepts are wrong, then our thinking will be faulty. Thinking is correct only when the concepts formed are objective.

Following are the tools of thinking:

1. Perceived, recollected and imagined objects.

This includes:

- (i) Concrete objects (ii) Generalised objects (iii) Objects with dynamic properties

2. Concepts

3. Language

Nature and Process of Thinking

Thinking is manipulating information as when we form concept, solve problem, think, critically reason and make decision. Different approaches describe thinking in different manners. They are as follows:

- **Associationist approach:** This approach suggests that thinking involves the reproduction of previously learned responses. The claim of the associationists is that human thinking follows along similar lines—that we will produce responses not through any complex internal representational processes, but as a result of associating a particular stimulus with a particular response.

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- **Gestalt approach:** Gestalt believes thinking is cognitive restructuring. The Gestalt psychologists disagreed with the associationist viewpoint and considered thought to be more than simple associations. They suggested that a person could have insight into, say, a problem's structure and in order to solve the problem they will restructure it. This suggests that thinking through something involves having some insight into the structure of what we are trying to think about and then restructuring it in order to do something about it.

Forms of Thinking - Thinking as Adaptation

This idea suggests that thinking develops through adaptation to particularly skilful ways of dealing with problems. Anderson (1985) suggests that skill acquisition is a move from the use of declarative knowledge to procedural knowledge, so thinking will differ depending on the level of a person's skill and the demands of a particular task. According to Hudson, there are two different styles of thinking—(i) convergent and (ii) divergent. They are as follows:

- (i) **Convergent thinking:** Convergent thinking is problem-bound and is focused on the limitations of the problem. It occurs when the individual has a tendency to work towards on a single right answer. It often involves some degree of functional fixedness where the person trying to solve a problem cannot view an object as serving any other purpose other than the one it usually serves. For example, if asked to think up as many uses as possible for a brick then the convergent thinker will tend to stay within the boundaries of the functions normally associated with a brick, such as building and construction.
- (ii) **Divergent thinking:** This is the opposite of convergent thinking, it is not problem bound and does not focus on one single right answer. It is where the individual will move towards a more novel and original line of thought that might yield any number of possible solutions to a problem. For example, if a divergent thinker was asked to think up as many uses as possible for a brick they would be likely to come up with hundreds of possibilities, very few of which would conform with the usual uses (e.g., making a sandwich).

Check Your Progress

6. State the definition of encoding.
7. Mention the three major types of memory.
8. What are schemas?

8.5 CONCEPT FORMATION

A concept is the basic unit of all types of learning. Human beings from infancy to old age, learn new concepts and use old concept in new situations of their daily life. Individuals differ in their level of concept formation on the basis of their age, intelligence and experience. A child of four years may have a different concept of plant than a teacher of biology.

The word 'concept' is used to designate both mental constructs of individuals and also identifiable public entities that comprise part of the substance of the various disciplines. In simple term, we may define that a concept is an idea or understanding of what a thing is. We can also define a concept as ordered information about the properties of one or more things or class of things to be differentiated from and also related to other things or classes of things. Logically, a concept refers to a phenomenon in a given field that are grouped together because of their common characteristics, for example, the word square refers to a unique class of objects which are manifestly distinct from triangles and circles.

Kagan (1966), emphasizing the importance of concepts in life, writes that concepts are fundamental agents to intellectual work. The theoretical significance of cognitive concepts in psychological theory parallels the seminal role of valence in chemistry, gene in biology or energy in physics.

In another way, we may define that concepts as public entities, are the organized information to the meanings of words which a particular society has accepted as means of communication. Carroll (1964) related concepts, words and word meanings as words in a language can be thought of as a series of spoken or written entities which facilitate development. There are meanings for words that can be considered as standard of communicative behaviour that is shared by those who speak a language. Thus we can say that meaning of a word is, therefore, a societally standardized concept, and when we say what a word stands for or name a concept it is understood that we are speaking of concepts that are shared among members of a community. Different communities may have different concepts of the same word.

Formal definitions of the word concept vary so widely that communication is impeded across and even within disciplines. Flavell (1970) has indicated that a formal definition of concept in terms of its defining attributes is useful in specifying what concepts are and are not and also understanding the great variability among concepts of a variety of objects. Concepts have attributes or we may say that every concept has some attribute which refer to the set of values and properties that each member of the concept class has in common.

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Attributes of Concepts

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1. *Learnability*. There is great difference in learnability of concepts in the sense that some concepts are easily learned than others by individuals who share similar cultural experiences and language. For example, concepts which have readily perceptible instances as cat, dog, cow and tree, are more readily learned than the concepts without perceptible instances as atom and eternity.
2. *Usability*. Concepts vary in their use in day-to-day life. Some concepts are used more than others in understanding and forming principles and solving problems as for instance, mathematical concepts of numbers and set are used more than the concepts of ratio and proportion.
3. *Validity*. A concept is valid to the extent that experts agree on its meaning and definition. Some concepts, which have been well defined according to taxonomic systems within physics, chemistry and botany, have greater validity than so many concepts in the behavioural sciences which have not yet been well-defined and standardized, for example, concept of intelligence, democracy and group dynamics. Experts are more in agreement concerning definitions of the first group of concepts than the second group of concepts.

An individual's concept increases in validity with his age and as he learns. His concept comes closer to that of the experts, meaning thereby that the individual comprehends the concept more clearly and in definite terms.

4. *Generality*. There are many concepts that are arranged in hierarchical order of taxonomic system. Within the same taxonomy the higher the concept, the more general it is in terms of the number of sub-classes or subordinate concepts it includes. Concepts higher in the taxonomy have fewer defining attributes than those lower in the taxonomy, since differentiation among sub-classes is made in terms of one or more attributes that are not used in defining the higher concepts. Living things are highly general concepts.
5. *Power*. The attribute of power of a concept refers to the extent to which a particular concept facilitates or is essential to the attainment of other concepts. Bruner (1961) stated that there are certain big ideas or fundamental concepts in each of the various discipline which are necessary to learn in the beginning to understand other concepts. He recommended that these should be taught first so that other less powerful concepts and actual information could be related to them. For example, teaching of four fundamental laws to the beginners in arithmetic is very essential for understanding higher operations of the subject.

6. *Structure*. Any public concept defined in terms of attributes has a structure, a relatedness of defining attributes. Bourne (1970) has emphasized the importance of the structure of a concept in learning process.
7. *Instances of perceptibility*. Concepts vary with respect to the extent to which their instances can be sensed, as a plant has many instances which can be manipulated, seen and smelled whereas eternity has no perceptible instance. Between these two poles, there are concepts that can be represented with various degrees of accuracy by drawings or other means of representation as point can be drawn and shown to the children. With increasing age, individuals are able to identify the less obvious attributes of concept instances. As a child grows in years, he can learn more through manipulating objects and seeing them, in addition he can learn about them through symbolic representation, especially verbal experiences.

There are most concepts which have numerous instances. The number of instances ranges from one to an infinite number. One instance is of moon and sun, continent, a small number, a large number, drops of water or an infinite number integers. Certain concepts may have imaginary rather than actual instances.

In some cases, the particular instances of the same concept that different individual encounter vary markedly. For example, most children encounter instances of mother, father, fear, love and death, but the instances encountered are somewhat unique for each child. Concepts that evoke strong effective responses are more nearly non-communicable mental constructs of the particular individual than are concepts of plant, numeral and the like that have many similar instances that are experienced without much emotion.

Levels of Concept Development

There are four different levels of concept development which are as follows:

1. *Concrete level*. Attainment of concept at the concrete level is inferred when the individual perceives an object that he encountered on a prior occasion. The first step in attaining this level is attending to an object and representing it internally. Woodruff (1961) writes about the development of concept at the concrete level. "All learning begins with some form of personal contact with actual objects, events or circumstances ... the individual gives attention to some object ... through a light wave, or a sound wave, or some form of direct contact with a sensory organ in the body, an impression is picked up and lodged in the mind."

Gagne (1970) indicated that as the individual attends to an object, he discriminates it from other objects. Woodruff (1961) called the outcome

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of these attending and discriminating operations a concrete concept, a mental image of some real object experienced directly by the sense organs. Let us explain it with the help of a concrete example. An infant of 1½ years cognizes his feeding bottle and a plastic bottle; he discriminates each one, maintains a mental image of each and cognizes each of the objects when experienced later.

The attainment of concept at the concrete level requires attending to the distinctive features of an object and forming a memory image which represents the object as a unique bundle of feature. The concept at this level may or may not be associated with the concept level. The model as developed by Herbert J. Klausmeier *et al.* in their book *Conceptual Learning and Development* published in 1974, postulates that attending, discriminating and remembering are involved in sensorimotor experiencing as well as in the visual perception of objects.

2. *Identity level.* The concept, at the identity level, is attained when the individual cognizes an object as the same as previously encountered. When the child is able to generalize the characteristics of the object in different perspectives or sensed in different modality we say that he has attained concept at the identity level. Concept formation, at the concrete level, involves only the discrimination of an object from other objects but attainment at the identity level involves both discriminating various forms of the same object from other objects and also generalizing the forms as equivalent. Generalizing is the new operation postulated to emerge as a result of learning and maturation that makes attainment at the identity level possible.

The concept at the identity level is attained temporarily before it is attained at the classificatory level.

3. *Classificatory level.* The lowest level at the classificatory level is attained when the individual is able to treat at least two different instances of the same class as equivalent even though he may not be able to describe the basis for his response. When the child treats family's cow and the neighbour's cow as cow, it means he has attained a concept at the classificatory level. It is when the individual is able to classify a larger number of instances but cannot accurately describe the basis of his classification or grouping in terms of the defining attributes.
4. *Formal level.* A concept, at the formal level, is attained when the individual can give the name of the concept, name its intrinsic and societally accepted defining attributes, can accurately give examples as belonging or not belonging to the set, and can state the basis for their inclusion in terms of the defining attributes. The child shows the concept of dog at the formal level. When shown dogs, foxes and wolves of various sizes and colours, he properly designates the dogs as such,

calls them dogs, and names the criterial attributes that differentiate the dogs from the foxes and wolves. This distinctive aspect at this level of concept mastery is the learner's ability to specify and name the defining attributes and to differentiate among newly encountered instances and non-instances on the basis of presence or absence of defining attributes.

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Types of Concepts

Bruner (1956) makes a difference between concept formation and concept attainment. The process of primitive categorization of objects is called concept formation. In the concept attainment experiment, the number of dimensions or specific attribute values are known to the subject beforehand and hence he is properly set to find out the definite attributes of a concept.

There are mainly three types of concepts which are described as follows:

1. *Conjunctive*. A conjunctive concept is defined by the joint presence of the appropriate value of several attributes.
2. *Disjunctive concept*. A disjunctive concept, on the other hand, involves a critical combination of criterial attributes or any constituent thereof.
3. *Relational concept*. The relational concept involves the notion of a common relation among the various elements of attribute values defining the concept.

Concept Building

The process of concept formation emerges from a big, buzzing blooming, confusion in which the child is born. The child is endowed with certain biological inheritance at the time of his birth. He gains knowledge of the external world through sense organs which are the gateways of knowledge. Sensation is the conscious reaction of mind. It is the process through which human beings become aware of things in their immediate environment which stimulates their sense organs. The building of concepts starts with the process of sensation.

The sense organs often operate independently and separately of one another. Sensations are disorganized, unrelated and meaningless. For example, a person may sense that an object is of a certain size, colour, weight and shape. But before these impressions have any meaning, they must be organized, related to one another and compared with previously experienced sensations. The mental process by which this is done is called perception. Sensation and perception operate simultaneously. It is very difficult to have pure sensation of objects. One does not have to sense and then perceive; he perceives while sensing. The process of interpreting or giving meaning to sensation results in the formation of percepts. A percept is an organization of sensory experiences about a particular object. It is simply an image of

the object which is immediately presented to the senses. It may be stored in the memory and recalled in future to help develop concepts. The process of concept formation proceeds from sensation, perception and conception.

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Children's Concepts and Role of the Teacher

Needless to mention that development of concepts starts from the first year of life of the child. The child begins from simple concepts of his environment's objects as feeding bottle, table, eyes, nose and other parts of his body. At this stage, the child is not able to express them verbally, but if you ask a child to bring his feeding bottle he will bring it or if you ask him to show his eyes, he will immediately point out to his eyes. The quantity and quality of concepts depend on the environment the child moves in and the experiences he had. Let us illustrate this point with the help of an example. The child who is born in a slum will have a different concept of house than a child born in upper class in a city. The variety of concepts and their quality depends upon the experiences which the child receives in his home environment. The variety of concepts differs from individual to individual depending upon his environment, intelligence and language ability. Conceptualization is a cumulative process. The formation of concepts in later life depends on the early experiences of the individual. The early experiences are very vital and play an important role in the cognitive development of the child in later life.

As mentioned earlier, a child's concept attainment begins with concrete and simple objects of his environment. The child explores his physical environment and through the process of observation, imitation and conversation with older people he builds many concepts. Before the child is admitted in school, he acquires a number of concepts of the objects of his environment but these concepts are not fully understood by the child.

Generally, the child is admitted in school by the age of 5 years. The role of the teacher is to sharpen the already formed vague concepts to teach new and more complex concepts. The teacher must guide children at every stage of concept building. Psychologists on the basis of their empirical researches have generalized some ways which help in building concepts. The teacher must keep into consideration while teaching concept formation to children. The most efficient and effective technique of developing concepts is to provide direct experience of the objects. Direct experiencing gives first-hand knowledge of the object because first-hand experiencing leaves better image of the object. Suppose we want to give the concept of elephant. There is no substitute for seeing and touching a real elephant. Because of this reason schoolchildren in big cities are taken to the zoo to give them first-hand experience of an elephant and other animals. But in present times, as life progresses in a rapid pace, all schools cannot organize trips to the zoo. There are many things which cannot be brought in the classroom for direct experience so such objects cannot be experienced directly. The teacher must

provide indirect experience to children of such objects. The teacher can make use of audio-visual aids to represent the actual objects in the class teaching to give a vicarious experience.

The second important thing which a teacher can do to provide a clear concept of an object is to provide the variety of experiences in different settings of the same object. Suppose, the teacher wants to give the concept of cow, the child must see both big and small cows of different colours and then the teacher must help the child to infer a criterial attributes of a cow.

The third consideration which a teacher must have is that new ideas are not easily assimilated by the mind if they are not associated with the previous learned concepts. The teacher must help the students to differentiate old and new concepts. He must point out the prominent features of an object so that children may develop the concept of defining attributes. The teacher must encourage the students to form their own concepts. Children should be provided with numerous instances of the concept and helped to verbalize the concept in the form of definition.

Strategies in Concept Learning

Bruner *et al.* (1956) have described the various kinds of strategies that occur during the course of attaining the concept. They have mentioned in operational terms the following steps in concept formation:

A variety of instances are presented to the subject for testing. He may adopt in this situation either focussing, scanning, or focus gambling strategy. Conservative focussing strategy of finding a positive instance of a particular concept and then making a sequence of choices, changing one attribute at a time to see whether each change yields a positive or negative instance. This strategy has the advantage of low cognitive strain and maximum use of information. Successive scanning involves testing a single hypothesis; he limits his choices only to those instances which provide a direct test of his hypothesis. In focus gambling, the subject is working against time. There is a limit of number of instances he can test before discovering a concept.

Bruner has also given another classification of strategies as Wholist and Partist. He has summarized the results of different strategies as follows:

1. It is possible to describe and evaluate strategies in a relatively systematic way in terms of their objectives and in terms of pattern of responses or regularities in the sequences of decisions involved in reaching the solution.
2. No strategy is uniformly effective under all conditions.
3. It is possible to demonstrate the effect of relevant conditions upon measurable aspects of categorizing strategies in the selection of concept attainment task:

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(a) *Random vs orderly array of presentation of instances.* It is found that orderly array of presentation is more favourable for the emergence of conservative focussing strategy. It has an important effect on performance.

(b) *Thematic vs abstract material.* When thematic material consisting of human figures and situation is introduced in place of abstract material for concept attainment, efficiency is reduced.

(c) *In the head vs on the head.* When the cognitive strain of the task is increased by asking the subject to determine the concept by figuring out the descriptions of instances in his mind for testing without the aid of array of instances on the board before him, it is found that this variant has different effects on focussors and scanners.

4. In the inference type of concept learning the main strategies exhibited are: (i) Wholist, and (ii) Partist.

5. Particular strategy and its use depends on the function of task requirement.

Acquiring the Names of the Concept and its Attributes

<i>Levels of concept attainment</i>	<i>Concept extension and use</i>
Concrete level	Solving problems on perceptible element
Identity level—Classificatory	Generalization relationship—cause and effect
Formal	Using of the concept in solving problem
Inferring of the concept	

CLD MODEL, 1974

Check Your Progress

- 9. What is the meaning of the word ‘concept’?
- 10. What do you understand by concept formation?

8.6 CREATIVITY

In 1980, Guilford stated, “Of all the qualities that man possesses, those that contribute to his creative thinking have been most important for his well-being and his advancement.” Creativity is a very precious and unique quality in an individual that enables him to solve complicated problems in different walks of life. Newton propounded his theory of gravitation and laws of motion at a very young age. The genius of Galileo and Einstein was recognized at their young age. Therefore, the gift of creativity needs to be nurtured right from childhood and should be continued throughout adulthood.

As an eminent personality observed, “In every underdeveloped country, potential Einstein and Newton are herding cattle or breaking stones.” There is a great deal of truth in this statement as it indicates how human resources remain uncultivated in most of the developing or underdeveloped countries. The progress and prosperity of a nation depends on the development of creative potential of its people.

Torrance said, “Society is downright savage towards creative thinkers especially when they are young.” Suppression of the creativity of a child means learning disabilities, behaviour problems, dropouts and mental conflicts and above all, a loss to mankind.

Definition and Meaning of Creativity

Some of the important definitions given below illustrate the meaning of creativity:

1. According to J E Drevdahl, “Creativity is the capacity of a person to produce compositions, products or ideas which are essentially new or novel and previously unknown to the producer.”
2. According to Jung, “Creative people are either perceivers or judges. Mathematicians and scientists are most commonly judges while writers are perceivers. Perception is again either sense perception or intuitive perception. Most of the people are perceptive while very creative people are intuitive.”
3. C E Skinner wrote, “Creative thinking means that the predictions and/or inferences for the individual are new, original, ingenious and unusual. The creative thinker is one who explores new areas and makes new observation, new predictions, new inferences.”
4. R Stagner and T F Karwoski stated, “Creativity implies the production of a ‘totally or partially’ novel identity.”
5. Torrance defined creativity as “A process of becoming sensitive to problems, deficiencies, gaps of knowledge, missing elements, disharmonies and so on, identifying the difficulties, searching for solutions, making guesses or formulating hypotheses about the deficiencies, testing and retesting hypotheses and possibly modifying and retesting them and finally communicating results.”
6. Weisberg and Springer defined the creative mind as, “One in which a problem stimulus easily evolves material from various experimental areas.”
7. R C Wilson, J P Guilford and P R Christensen defined creativity as, “The creative process is any process by which something new is produced—an idea or an object including a new form of arrangement of old elements. The new creation must contribute to the solution of some problems.”

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8. According to Zbigniew Pietrasinski, a Russian psychologist, “Creativity is an activity resulting in new products of a definite social value.”

Evaluation of Definitions of Creativity

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Definitions of creativity fall under four categories.

1. The person who creates.
2. Mental processes asserting within the person who creates.
3. Cultural and environmental factors working on the creator.
4. Products of creativity, i.e., poems, paintings, theories and inventions.

A workable definition of creativity could be as: Creativity is the ability or the capacity of a person to discover and explore new areas to create or produce a new idea, or theory or object including the re-arrangement or reshaping of what already exists.

Creativity and Divergent Thinking

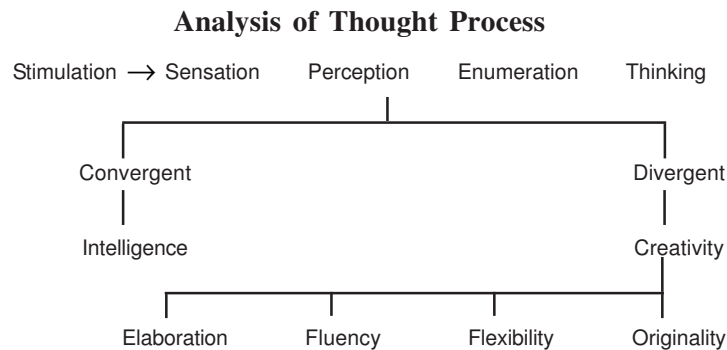
According to Guilford (1959), creative thinking means divergent thinking and uncreative thinking means convergent thinking. An example will make it clear.

Suppose the teacher is teaching about forests. He may ask the students about the various benefits that we derive from forests. Here divergent thinking will be required. The teacher is not asking about any particular advantage but a variety of advantages. The students may think about a number of benefits.

In a lesson prepared for elementary classes, a child may be asked to perform different roles at different times i.e., role of a dwarf, role of a giant, role of a king, etc. All this would provide him with a scope to enhance his creativity.

The following representation will make clear the distinction between divergent thinking and convergent thinking.

Analysis of Thought Process



Creativity and Intelligence

J P Guilford clearly distinguished between the intellectual operations of 'divergent thinking' (creative process) and 'convergent thinking' (which represents intelligence). According to him, every intelligent person may not be creative but a very high percentage of creative people possess a great degree of intelligence.

A large number of co-relational studies undertaken indicated that intelligence and creativity go hand in hand up to a certain limit and get separated after that limit. However, it is wrong to suppose that intelligence and creativity are two independent variables or that one always develops at the cost of other.

The findings suggest that while intelligence and creativity are positively correlated, the relation between the two is not entirely linear.

Difference in achievement and home backgrounds of the highly intelligent and highly creative students: Investigations by Gatzels Jackson on students of a private school in Chicago revealed that the two groups of children, i.e., the creative and the intelligent were equally superior in academic performance as measured by standard achievement tests. Highly creative students tended to come from somewhat less well-educated homes and experienced greater independence from their mothers.

The essence of these differences may be summed up in one sentence. "The adolescent with high IQ may be seen as preferring the anxieties and delights of safety, and those with high creativity as preferring the anxieties and delights of growth."

Creativity and Age

Lehman concluded on the basis of his studies that although some outstanding creative accomplishments appear at advanced ages, superior creativity generally rises rapidly to its highest or peak points in the thirties and declines slowly afterwards. Lehman also pointed out that apart from age there are numerous social, emotional and physical factors that retard creativity.

Creativity and Mental Abilities: Guilford mentioned the following mental abilities:

1. Fluency (the ability to produce large ideas).
2. Flexibility (the ability to produce a variety of ideas or approaches).
3. Originality (the ability to produce uncommon responses).
4. Redefinition (the ability to define or perceive in a way that is different from the usual).
5. Sensitivity to problems (the ability to evaluate implications).

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Theories of Creativity

- 1. Creativity as divine inspiration:** According to Plato, a creative writer is an agent of a super-power.
- 2. Creativity as madness:** Creativity is sometimes taken to be a sort of 'emotional purgative' that kept a man insane. Van Gough, the great master painter was said to be half-mad. Freud stated, "A neurotic is an artist san art."
- 3. Creativity and intuitive genius:** According to this viewpoint, a creative person intuits directly and immediately.
- 4. Creativity as association:** It is said that new ideas are manufactured from the older ones. Hence, more association leads to more ideas and more creativity.
- 5. Gestalt theory and creativity:** Restructuring patterns or gestalts that are structurally deficient is called creativity.
- 6. Psychoanalysis and creativity:** According to Freud, creativity originates in a conflict within the unconscious mind. Creativity is a tension-reducing process.

Creative Process

Wilson, Guilford and Christensen observed that creative process is any process which produces something new—an object or an idea including a new form or arrangement of old elements. The new creation must contribute to the solution of some problem.

Torrance was of the view that the process of creativity is similar to the steps in scientific method. The central element of both is the production of something new.

Nature and Characteristics of Creativity

1. Creativity is the resultant of some interaction.
2. Creativity is the ability to synthesize ideas or objects.
3. Creativity is the ability to create new ideas, theories or objects.
4. Creativity is the ability to develop something original.
5. Creativity has several dimensions.
6. Creativity is a process as well as a product.
7. Creativity is a complex, dynamic and serious process.
8. Creativity knows no special medium, place, person or time.
9. Creativity is the capacity to accept challenges.
10. Creativity is the freedom to exercise choice.
11. Creativity is the readiness to change self and environment.

Creativity to Different Professions is Different

- To the **artist**, creativity is the ability to evoke an emotional mood.
- To the **architect**, creativity is the ability to evolve new approaches, forms and new materials.
- To the **scientist**, creativity is the ability to explore new way of extending knowledge.
- To the **teacher**, creativity is the ability to discover and apply dynamic methods of teaching-learning.
- To the **student**, creativity is the ability to use words and phrases in new situations, to solve sums speedily, to prepare new types of charts and projects, to write essays and stories depicting new ideas and so on.

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Characteristics of a Creative Personality

Torrence compiled a list of 84 characteristics describing the traits of a creative personality. Some of these are:

1. Adventurous
2. Curious by nature
3. Desirous to excel
4. Flexible in his thinking, feeling and doing
5. Intuitive
6. Keen to explore and invent
7. Non-conformist
8. Self-disciplined
9. Visionary
10. Willing to take risk

Creative children are constantly probing, discovering, imagining, fantasizing, asking questions, guessing and wondering. Therefore, they should be encouraged to ask unusual questions, to explore new ways of thinking, to try novel approaches to problem-solving, to play with ideas and material and use divergent ways of dealing with traditional topics.

Role of the School and Teachers in Promoting Creativity in Children

School is, in fact, the proper place where an organized effort should be made to develop the basic foundations for creativity in children. Deliberate attempts need to be made to develop an environment of creativity among them. Some methods useful in promoting creativity are:

- I. Identification of the creative child:** Both test and non-test techniques can be used to identify the creative child. Guilford and Merrifield

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developed test techniques that measured fluency, flexibility, originality, redefinition and sensitivity to problems.

Getzels and Jackson, on the other hand, used five different measures of creativity in their research.

- (a) **Word-association tests** — Students are required to give as many definitions and number of different categories into which they could be placed.
- (b) **Uses of things tests** — A student is asked to give as many uses as he can for a common object.
- (c) **Hidden shapes tests** — A student is required to find more complex form of figures and shapes on cards, presented to him in a simple form.
- (d) **Three different endings** — A student is required to suggest three different endings to incomplete short fables.
- (e) **Make-up problems** — A student is required to make-up or form as many mathematical problems he can on the basis of information given in a complex paragraph.

Besides these, the Minnesota tests of creative thinking comprising non-verbal tasks like picture construction, creative design, circles and squares, etc. and Torrence's check-list comprising 84 characteristics for identifying the creative children, are also very helpful.

- II. Factors in the school that hinder creativity:** The present curriculum and methods of teaching are rigid and tradition bound. The current educational system largely encourages acquisition of knowledge and lays emphasis on rote memory. It rarely calls upon children to think and use their creativity. Most of the school activities and curriculum are usually teacher-centred.
- III. Strategies for developing creativity:** It is often said that creativity needs to be identified, energized and guided almost from birth. Research findings suggest that the development of creativity cannot be left to chance. Creativity is likely to flourish in an environment which values independent and free thinking.
- IV. Types of programmes for the education of creative children:** Following are the programmes for educating and guiding creative children.
 - (a) Identification of the creative children in the school.
 - (b) Formulation of general and specific goals for guiding creative talent.
 - (c) Providing appropriate learning environment.
 - (d) Stimulating creativity among those children who do not apparently show it.

V. Providing creative learning environment and experiences in the classroom: The teachers should follow the given guidelines to promote creativity in children.

- (i) Inspire the students to learn to disagree constructively.
- (ii) Inspire the students to emulate creative persons.
- (iii) Provide for exciting experiences to the students.
- (iv) Provide a safe, permissive and warm environment.
- (v) Develop student's ideas through constructive criticism and through referral to competent authorities.
- (vi) Provide necessary guidance and counselling for developing motivation and overcoming emotional fears.
- (vii) Allow the students ask unusual questions.
- (viii) Appreciate imaginative and unusual ideas of the students.
- (ix) Assure students that their ideas have values.
- (x) Evoke originality in thinking.
- (xi) Provide opportunities to students for self-initiated learning.
- (xii) Provide materials which develop imagination of the students.
- (xiii) Ask challenging and thoughtful questions.
- (xiv) Rewards rather than punishment helps to increase creativity in students or children.
- (xv) Shower love on them and let them know it.
- (xvi) Provide activities like drama, dance, music, etc.
- (xvii) Encourage debates, discussions, quiz, etc.
- (xviii) Show wit and humour in the class.
 - (ix) Encourage them to do intensive and extensive reading.
 - (xx) Arrange lectures of creative personalities.
 - (xxi) Encourage students for self-evaluation.
 - (xxii) Follow gaming technique.
 - (xxiii) Follow brain storming strategies.

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Brain Storming as a Strategy for Developing Creativity

It is a technique which emphasizes the importance of divergent thinking. It involves generating ideas in response to some problem in a group. It allows children to attack and solve a problem without any inhibition or restriction. Literally speaking, it is 'storming' a problem by a number of possible ideas and solutions.

To start with, students may be provided with a focus, i.e., a particular problem like 'students' self-government in the school', 'checking late

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coming', 'improvement in the examination system', 'organizing the annual Function', etc. Thereafter, students are asked to suggest ideas. In this context, following guidelines need to be kept in view:

- (i) Students are encouraged to suggest as many ideas as possible; however, unusual these might be.
- (ii) Students are allowed to express their ideas freely.
- (iii) Students' ideas should not be criticized.
- (iv) Students may be encouraged to build new ideas on the basis of ideas already suggested by the fellow students.
- (v) Main points of all the ideas should be written on the blackboard.
- (vi) In the end, attempts should be made to find out a meaningful solution.

Role of Home in the Promotion of Creativity

The home environment greatly influences the creativity aspect. Neither too much love nor too much fear promote creativity in children. Students should be permitted to ask questions freely. They should be provided with stimulating learning material. Appropriate toys and reading material may be made available to children.

Check Your Progress

11. State the definition of creativity.
12. How many characteristics were mentioned in the list compiled by Torrence describing the traits of a creative personality?

8.7 PROBLEM SOLVING AND DECISION MAKING

Decision making is one of the most important spheres of managerial activities. Generally, the decision making process is seen as only one of the several activities of managers and other upper management personnel. It is this process that differentiates them from other employees. However, decision making is a complex process that must be understood fully before it can be implemented and practised. Right decisions have resulted in progress and success of companies and many wrong decisions have resulted in failures and winding up of organizations. In a tense and competitive world, right decision making is becoming more and more crucial. The survival and success of companies is dependent upon whether our managers have the wisdom and courage to make and carry out the right decisions.

Rational decision making and problem solving may be used interchangeably since a problem has to exist and a decision is made to solve such a problem. While most decisions indeed involve a problem, some

decisions are comparatively routine and may not involve a problem. For example, decisions as to what to wear or which movie to see or whether to stay or go swimming are routine decisions and simple choices among available alternatives requiring common sense and simple qualitative judgement. Problem solving on the other hand is a much more vigorous process which requires rational inquiry based upon unemotional reasoning requiring identifying the problem, generating feasible solutions for it, choosing the best solution from utility point of view and then applying this solution to see if it works efficiently and effectively. In general, while decision making results in a choice from many alternative courses of action, the problem solving results in resolving the disparities between the desired performance and the performance that is actually obtained.

Decision making really is a complex mental exercise. Some of the decisions we make are highly significant with highly important consequences. The more significant decisions very often need the exercise of considerable analytical judgement and the quality of such judgement is the backbone of successful decisions. These judgements must eliminate the root causes of the problems that have necessitated such decisions. Ineffective decisions attack only the symptoms and are only cosmetic in nature. They may solve the problem on the surface or on a short run basis, but in order to find a lasting solution, the problem must be attacked at its roots.

As we all face the future, its unpredictability brings to us certain situations which are unexpected and hence problematic in nature. As we grow older and share added responsibilities, we develop certain characteristics which give us some intuitional senses which help us solve some of these problems and we also learn some techniques and methodologies through the acquisition of knowledge and skills which assist us in solving certain types of problems. These problems which require decisions exist at personal level, organizational level and at societal level.

Individuals must make major decisions regarding their careers, their marriage and family and other decisions which have far reaching personal implications. The organizational decisions involve problems relating to investments, products, marketing, location of production or service facilities, dealing with personnel problems, contributions towards community welfare and so on. Societies, in general, have many problems that affect their very survival such as crime, energy shortages, depletion of finite resources, health services, employment, political conflicts among nations and so on.

Problem Solving

Since a problem must exist in order to make a decision in solving it, we must know what the problem is so that we can identify it when it shows up. Being aware of the problem is the first pre-requisite for finding a solution. The Webster's Dictionary defines a problem as, 'a question raised for

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inquiry, consideration or solution.’ While this definition is not complete or self explanatory in itself, a problem seems to exist when the symptoms of the outcome of an activity do not seem to be conforming with the expected outcome of the same activity as planned. For example, if you are going to your office in the car and on the way, you get a flat tire, then you have a problem since you did not expect this to happen. Similarly, if someone becomes ill, then this is a deviation from the norm of healthy living and this would constitute a problem and the sick person would seek a solution to the problem by going to the doctor.

The Structure of Problems

According to Harvey G. Brightman, the problems may be of the following types:

1. Ill-structured versus well-structured problems. The ill-structured problems are unique, unpredicted and unprecedented situations. These problems are ambiguous and poorly understood and defy any cut-and-dry solution. These are generally ‘one-shot’ occurrences for which standard responses are not available and hence require a creative process of problem solving which is specifically tailored to meet the requirements of the situation at hand. Such problems may involve closing of a plant, buying or merging into new company, starting a new business and so on. Because the ill-structured problems do not have well structured solutions, such solutions generally rely upon skill, intuition, creativity, experience and considered judgement and carry with them consequences of diverse ramifications. These problems are generally faced by top level management because their environment is complex and is involved with high level policy decision.

Well-structured problems, on the other hand, are clearly defined, routine, repetitive and respond to standardized responses. They are familiar, complete and easily defined and analyzed. These problems are generally faced by lower level and middle level managers who have, at their disposal a set of rules, policies and procedures that can be used to solve these problems so that such problems do not have to be referred to superiors for solutions. For example, if a professor cuts too many classes, the chairperson of the department can use the prescribed rules to discipline him and the issue does not have to be referred to the president of the college. Similarly, if you buy some merchandise and it turns out to be defective, you can take it back for a refund and for the management of the company, this problem of making refunds for defective merchandise is a well structured one because the management has already established a set of rules and procedures to deal with such a situation.

2. Operating level versus strategic level problems. Operating level problems are generally well structured problems encountered by the organization on a daily routine basis. For example, a newspaper shop owner has the problem of reordering the newspapers and magazines every day and he knows when to order and how much to order. Similarly, daily or weekly production levels, inventory levels or sales levels are set and known and standard solutions exist to solve any problems in these areas when they arise. These situations are not new or unique and do not involve any changes in organizational policies or procedures.

On the other hand, strategic level problems are unique and demand high level management attention. These problems may involve changes in policies and are important in terms of actions taken or resources committed. While operating level problems do not affect the survival of the organization, strategic level problems do. Sometimes, if the operating level problems are left unattended, they may become strategic level problems. For example, if no action is taken against a professor who habitually cuts classes, this may affect other professors thus making it a morale problem for the college, which then would be considered a strategic level problem.

3. Crisis versus opportunity problems. The crisis problems develop suddenly and are totally unexpected at a given time. These may develop within the general framework of expectations so that the management has some types of preparations to handle these crisis situations. For example, a forest fire will create a crisis problem but the government and the community is generally prepared to fight the forest fire. Similarly, a major strike at the plant may not have been expected, but the management generally has made provisions to handle the situation.

Solving crisis problems is reactive in nature and requires reacting quickly and aggressively to solve the problem. It may be achieved through task forces which may try to mould crisis situations into well known problems for which the solutions are known to exist.

The opportunity problems are more of challenges which must be exploited for the betterment of the organization, rather than actual problems as per their strict definition, For example, if an opportunity to merge with another company arises which could be highly beneficial to a given organization, then such organization may not recognize the potential and may miss the opportunity, thus making the decision of not merging, a failure. Similarly, a slightly increased rate of employee absenteeism may mean some deeper organizational internal environmental problem and if the management does not recognize this opportunity to deal with the problem, this missed opportunity may blow up into a crisis. Both the crisis problems as well as the opportunity problems are handled by the central management.

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The Problem Pointers

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First of all, how do we determine that there is a problem? Even if we know that there is a problem, how do we determine the extent and the seriousness of the problem? According to Miller and Starr(5), there are certain characteristics that are attributes of problems. One of the major characteristics of the problem is the existence of deviation between what was expected under a given set of conditions and what actually happened.

Before solutions can be found, the problems must be thoroughly and correctly diagnosed and the decisions concerning solutions to the problems must deal with underlying factors rather than surface symptoms. For example, a doctor prescribing a medicine for a headache as a symptom without looking into the root cause of it, will only provide a temporary relief and not really 'solve' the problem. Accordingly, in properly defining a problem, we must ask some critical questions relating to it. Some of these critical questions may be:

- What type of problem is it?
- How large is the deviation from the norm?
- How quickly has this deviation been observed?
- What are the critical factors relating to the problem?
- Why do we want to solve this problem and when?
- Would the cost of solving the problem be justified?
- Who should solve the problem and what particular method be chosen to solve the problem?

These initial questions would indicate the extent of the problem so that we can become fully aware of it and grasp its significance.

It is very important that the problem be diagnosed as early and correctly as possible. For example, cancer, when detected in earlier stages, may be cured, but in advanced stages it can be fatal. The early awareness of the problem is the first pre-requisite for dealing with it. However, sometimes we may not even know that there is a problem when in fact it exists until it is too late when we find out. Colon cancer, for example, does not have obvious symptoms for early detection so that the patient may not even know that he has it until in its advanced stage. At other times, we may be aware of the problem but may not consider it serious enough to find a solution until it becomes a crisis. Some problems may hit us when their severity can no longer be ignored. For example, too many lives lost in car collisions may require legislation about seat belts in cars in order to solve the problem of death and injury in car accidents. Similarly, the destruction brought about by typhoons and hurricanes may indicate the problem of inadequate early warning systems.

Another problem pointer is a built-in signal in the process of operations so that whenever there is a deviation from expected outcome, it gives out a signal. For example, the Internal Revenue Service computer will create and send a signal to alert an administrator if some tax deductions are excessive in a given tax form so that some action can be taken. Similarly, our organizational accounting system can be set up in such a manner that any changes in the cash flow or demand, increase in the cost per unit produced, excessive and delayed state of accounts receivables, excessive inventories at hand and so on will attract the manager's attention quickly for appropriate action.

Some problems are pointed out by third parties such as a user of a product or a consumer representative group. The problem of toxic wastes almost became a crisis when various consumer groups started pointing out the problem of the community health to the government agencies. Poloroid instant camera came into existence because of a 'consumer complaint,' when the consumer happened to be the daughter of the instant camera inventor, who wanted to look at the pictures taken right away. Thus, if a product is faulty, it can be brought to the attention of the manufacturer. The Federal Safety Commission and Food and Drug Administration in America test products to see if they conform to prescribed standards. If they do not, then there is a problem for which the solution must be found.

There are some problems that come to surface due to sheer idle curiosity. The problem may not be a real one but may be considered a problem if solving it leads to better outcomes. Such a problem is not really the deviation between what is actually happening and what is expected, but a deviation between what is actually happening and what is actually achievable. For example, when Fredrick Taylor applied scientific methods to production, the productivity improved tremendously so that there was really no problem in production except that the situation was made into a problem by asking, 'can we do it better?'. Based upon this premise, some organizations are continuously involved in finding problems with existing methods in order to improve upon them.

In general, a problem exists whenever there is a difference between an actual situation and the desired situation. For example, if the total number of incoming students into a college suddenly goes down than what was expected, then this would pose a problem requiring administrative attention and solution.

When solving a problem, we are striving for a goal but have no ready means of obtaining it. We must break down the goal into sub goals and perhaps divide these sub goals further into smaller sub goals, until we reach a level that we have the means to obtain (Anderson, 1990).

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Problem solving strategies

Problem solving strategies are as follows:

- **Difference reduction:** One strategy is to reduce the difference between our current state in a problem situation and our goal state, in which a solution is obtained. The key idea behind difference reduction is that we set up sub goals which put us in a state that is closer to our goal.
- **Means-ends analysis:** A similar but more a sophisticated strategy is means-ends analysis. We compare our current state to the goal state in order to find the most important difference between them, and eliminating this difference becomes our main sub goal. Means-ends analysis is more sophisticated than difference reduction because it allows us to take action even if it results in a temporary decrease in similarity between our current state and the goal state
- **Work backward:** Another strategy is to work backward from the goal, a particularly useful strategy in solving mathematical problems. These three strategies, viz., difference reduction, means-ends analysis, and working backward are very general and can be applied to any problem. Steps in problem solving are as follows:
 - (i) Represent the problem as a proposition or in visual form
 - (ii) Determine the goal
 - (iii) Break down the goal into sub goals
 - (iv) Select a problem solving strategy and apply it to achieve each sub goal

Representing the problem

Being able to solve a problem depends not only on our strategy for breaking it down, but also on how we represent it. Sometimes a propositional representation works best, and at other times a visual representation or image is more effective. In trying to solve this problem, many people start with a propositional representation. They may even try to write out a set of equations. The problem is far easier to solve when it is represented visually. Some problems can be readily solved by manipulating either propositions or images.

Experts versus novices

Experts and novices also differ in the strategies they employ. In physics, while solving problems, experts generally try to formulate a plan for attacking the problem before generating equations, whereas novices typically start writing equations with no general plan in mind (Simon and Simon, 1980). Another difference is that experts tend to reason from the given problem toward a solution, but novices tend to work in the reverse direction (the working

backward strategy). This difference in the direction of reasoning has also been found in studies of how physicians solve problems. More expert physicians tend to reason in a forward direction—from symptom to possible disease—but the less-experienced experts tend to reason in a backward direction—from possible disease to symptom (Patel and Groen, 1986). The characteristics of expertise, multitude of representations, principle based representations, planning before acting, and working forward are the specific procedures that come to dominate the weak methods of problem solving discussed earlier.

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Heuristics

A heuristic is a short-cut procedure that is relatively easy to apply and can often yield the correct answer, but not inevitably so. People often use heuristics in everyday life because they have found them useful. However, they are not always dependable. People use the similarity heuristic because similarity often relates to probability yet is easier to calculate. Use of the similarity heuristic also explains why people ignore base rates.

Critical thinking

Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information.

People who think critically and consistently generally tend to live rationally, reasonably and empathically. They use the intellectual tools that critical thinking offers—concepts and principles that enable them to analyze, assess, and improve thinking. Critical thinking is, in short, self-directed, self-disciplined, self-monitored, and self-corrective thinking. It presupposes assent to rigorous standards of excellence and command of their use. It entails effective communication and problem solving abilities and a commitment to overcome our native egocentrism and socio-centrism (Paul and Elder, 2008).

Reasoning

How do people reason about sentences in natural language? Most experimentation on deduction has been carried out on hypothetical thought, in particular, examining how people reason about conditionals, e.g., if A then B. Reasoning is the mental activity of transforming information to reach conclusion. It is a skill closely tied to critical thinking (Markman and Gentner, 2001). When we think in terms of propositions, our sequence of thoughts is organized. The kind of organization of interest to us here manifests itself when we try to reason. In such cases, our sequence of thoughts often takes the form of an argument, in which one proposition corresponds to a claim, or conclusion, that we are trying to draw. The remaining propositions are reasons for the claim or premises for the conclusion. Reasoning can be either inductive or deductive, as follows:

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- (i) **Deductive reasoning:** Deductive reasoning is reasoning from the general to specific (Newstead and others, 2002). Initial rules of assumptions are true, the conclusion will follow directly as a matter of logic; for example, (i) If it is raining, I will take an umbrella, (iii) It is raining. Therefore, I will take an umbrella.

Some theories of deductive reasoning assume that we operate like intuitive logicians and use logical rules in trying to prove that the conclusion of an argument follows from the premises. For example, consider the rule that we have a proposition of the form 'if p then q', and another proposition p, then we can infer the proposition q.

Effects of content: Logical rules do not capture all aspects of deductive reasoning. Such rules are triggered only by the logical form of propositions, yet our ability to evaluate a deductive argument often depends on the content of the propositions as well.

- (ii) **Inductive reasoning:** Inductive reasoning is the reasoning from the specific to general (Coley et al, 2004). An example can illustrate this better. Many psychologists accept the logician's distinction between deductive and inductive reasoning, but not all do. Some researchers who believe that mental models underlie deductive reasoning further hold that mental models are used in inductive reasoning and that consequently there is no qualitative difference between deductive and inductive reasoning.

Decision Making

Some of the factors and personal characteristics that have an impact on the decision maker are described below. Some factors are more important at higher levels of management and others are more important at lower levels.

- **Programmed versus non-programmed decisions.** As discussed earlier in the types of problems that managers face, programmed decisions are made in predictable circumstances and managers have clear parameters and criteria. Problems are well-structured and alternatives are well defined. The problems are solved and decision implemented through established policy directives, rules and procedures.

Non-programmed decisions are made in unique circumstances and the results of such decisions are often unpredictable. Managers face ill-structured problems. These problems require a custom-made response and are usually handled by the top management. To start a new business, to merge with another business or to close a plant are all examples of non-programmed decisions. For example, when Steve Jobs and Stephen Wozniak introduced the first Apple microcomputer in 1978, they were not certain about the market for it. Today, Apple McIntosh computer is a major competitor to IBM computers.

- **Information inputs.** It is very important to have adequate and accurate information about the situation for decision making, otherwise the quality of the decision will suffer. It must be recognized, however that an individual has certain mental constraints which limit the amount of information that he can adequately handle. Less information is as dangerous as too much information even though some risk takers and highly authoritative individuals do make decisions on the basis of comparatively less information than more conservative decision makers.
- **Prejudice.** Prejudice and bias is introduced in our decisions by our perceptual processes and may cause us to make ineffective decisions. First of all, perception is highly selective, which means that we only accept what we want to accept and hence only such type of information filters down to our senses. Secondly, perception is highly subjective, meaning that information gets distorted in order to be consistent with our pre-established beliefs, attitudes and values. For example, a preconceived idea that a given person or an organization is honest or deceptive, good or poor source of information, late or prompt on delivery and so on, can have a considerable effect on the objective ability of the decision maker and the quality of the decision.
- **Cognitive constraints.** A human brain, which is the source of thinking, creativity and thus decision making, is limited in capacity in a number of ways. For example, except in unique circumstances, our memory is short term with the capacity of only a few ideas, words and symbols. Secondly, we cannot perform more than limited number of calculations in our heads which are not enough to compare all the possible alternatives and make a choice. Finally psychologically, we are always uncomfortable with making decisions. We are never really sure if our choice of the alternative was correct and optimal until the impact of the implication of the decision has been felt. This makes us feel very insecure.
- **Attitudes about risk and uncertainty.** These attitudes are developed in a person, partly due to certain personal characteristics and partly due to organizational characteristics. If the organizational policy is such that it penalizes losses more than it rewards gains, then the decision maker would tend to avoid such alternatives that have some chances of failure. Thus a manager may avoid a potentially good opportunity if there is a slight chance of a loss. The personal characteristics of a decision maker regarding his attitudes towards risk taking affects the success of the decision. The risk taking attitude is influenced by the following variables.
 - (a) **Intelligence of the decision maker.** Higher intelligence generally results in highly conservative attitudes and highly conservative

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decision makers are low risk takers. There are others who are more willing to take calculated risks if the potential rewards are large and there is some chance of success.

(b) Expectation of the decision maker. People with high expectations are generally highly optimistic in nature and are willing to make decisions even with less information. The decision makers with low expectations of success will require more and more information to decide upon a course of action.

(c) Time constraints. As the complexity of the personal habits of the decision maker and the complexity of the decision variables increase, so does the time required to make a rational decision. Even though there are certain individuals who work best under time pressures and may out-perform others under severe time constraints, most people, by and large, require time to gather all the available information for evaluation purposes. However, most people under time pressure rely on a 'heuristic approach', which relies on satisfactory decisions rather than optimal decisions, thus limiting the search for additional information, considering few alternatives and few characteristics of alternatives and focusing on reasons to reject some alternatives'. This approach may also be in use when the cost of gathering information and evaluating all such information is too high.

- **Personal habits.** Personal habits of the decision maker, formed through social environmental influences and personal perceptual processes must be studied in order to predict his decision making style. Some people stick to their decisions even when these decisions are not optimal. For example, Hitler found himself bound by his own decisions. Once he decided to attack Russia, there was no coming back even when it was realized that the decision was not the right one. Some people cannot admit that they were wrong and they continue with their decisions even ignoring such evidence which indicates that a change is necessary. Some decision makers shift the blame for failure on outside factors rather than their own mistakes. These personal habits have great impact on organizational operations and effectiveness.
- **Social and cultural influences.** The social and group norms exert considerable influence on the style of the decision maker. Ebert and Mitchell define a social norm to be 'an evaluating scale designating an acceptable latitude and an objectionable latitude for behaviour activity, events, beliefs or any object of concern to members of a social unit. In other words social norm is the standard and accepted way of making judgements.' Similarly, cultural upbringing and various cultural dimensions have a profound impact on the decision making style of an individual. For example, in Japanese organizational system, a decision

maker arrives at a decision in consensus with others. This style is culturally oriented and makes implementation of the decision much easier since everybody participates in the decision making process. In America, on the contrary the decision making style is generally individualistic with the help of decision models and quantitative techniques.

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Rational Decision Making

Rational decision making is a process involving several steps that lead managers towards optimal decisions. It is a systematic and analytical approach which provides some guidelines as to how a decision should be made. There are ten sequential steps that can be followed and evaluated with continuous feedback at every step in order to fully analyze the problem and decide on a solution. These steps are shown as follows:

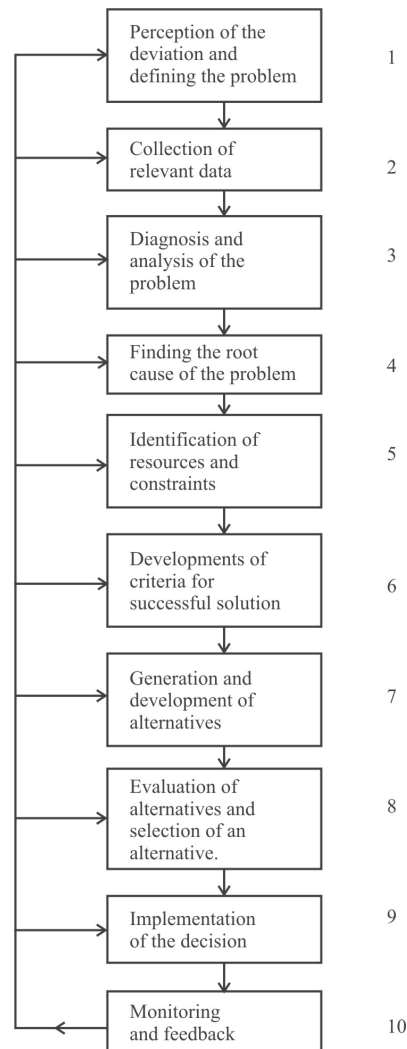


Fig. 8.5 Rational Decision Making

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These steps are discussed in more detail as follows:

Step (1) Perception of the 'deviation' and defining the problem.

The deviation has been defined as the discrepancy between the desired and actual state of affairs. The greater this deviation, the more serious the problem is. This deviation must be perceived as it is and correctly since any solution to a wrong problem would be the wrong solution. This deviation could develop either because the performance slips when the goals remain constant or because the goals change and the performance remain constant.

The problem, once isolated must be defined and formulated. A written problem statement should be developed, describing as specifically as possible the nature and the extent of the symptoms of the problem and when and where they occurred and what the underlying causes are thought to be. A written problem statement is easier to work on and more people can work on the problem at the same time. Furthermore, a written form provides an excellent form of communication to all parties concerned.

The defining of the problem can be objectively established by addressing relevant questions about the situation. For example, let us assume that the safety director in an organization has written a memorandum to the president expressing serious concerns over the increasing number of minor accidents. Some of the questions that can be raised in assessing the seriousness of the problem are.

- Is the situation due to change in reporting methods?
- Is it due to the opening of a medical first-aid center nearer the work place so that each minor accident is being reported which may have not been reported before because it was not so serious?
- Are only minor accidents increasing in number or is it a trend for all types of accidents?
- Are the definitions of minor and major accidents in terms of days of work lost meaningful and do they help clarify the current problem?
- Has there been any recent change in worker morale?
- Has there been a slackening of the safety program?
- Are new employees more prone to accidents?
- Was there any new faster equipment introduced recently that was not properly understood by the workers resulting in higher risks for accidents?

The accurate responses to such critical questions can help the decision maker recognize the reasons for the gap between what is and what should be.

Once the deviation has been recognized, the next stage is to determine how urgent and important the solution is. Some of the questions raised and considered in this regard are:

- How urgently the problem must be solved? How expensive is the problem likely to be if not solved? How expensive is the solution?
- What are the true feelings of the decision maker with reference to the values, norms, attitudes and past experience?
- Is the problem likely to resolve itself in time, if left alone?

The answers to these questions would determine the extent of involvement in solving the problem.

Step (2) Collection of relevant data. In order to determine the scope and the root cause of the problem, some information relevant to the problem must be collected. This information can be gathered from internal or from external sources, depending upon whether the external factors are responsible for the problem or internal factors or both. For example if the problem is general in nature such as the low morale of employees, then the behavioural aspects of work can be studied from the books, articles, surveys and published research reports so as to develop a model or a pattern and then the internal environment within the organization can be studied with respect to the model or pattern and solutions determined and applied.

Some problems are unique to the company itself so that all the data that is generated is internal and the basic source of this data is the management information system. For example, if some problem occurs in the space shuttle when it is in space, then the computers in the control center look for and relate all pertinent data to find the possible causes of the problem. This may include using the proto-type shuttle so as to simulate actual condition of the working shuttle to pinpoint the problem area.

After all this relevant data is collected, it is stored, sorted out and interpreted so that it is presented to the decision maker in the form of useful information. It is important that this information be relevant and adequate. Too much information requires time and effort which is costly. Inadequate information results in less than optimal decisions. Accordingly the value of the information, both in extent and quality must be optimally measured relevant to the problem at hand. For example, if a high level executive is to be hired who would be responsible for high level decisions then extensive and thorough information about the candidate for the position is needed because a wrong person for such a key position could be highly dangerous to the organization. Hence the cost of gathering the information justifies the value of the information. On the other hand, if only a typist is going to be hired then simple tests and a routine investigation of her background are enough. More information about her background has little value and is not worth the costs incurred. Also, a wrong decision about hiring the typist can easily be corrected and the typist replaced without any serious consequences to the organization.

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Step (3) Diagnosis and analysis of the problem. The collected information is subjected to a systematic in-depth study. The quality and preciseness of information could determine the quality of the decision. If information cannot be entirely based upon facts, then judgements must be made about the degree of certainty and reliability of the information obtained.

Depending upon the type of problems being faced, the information with regard to the problem can be classified in four categories for further evaluation. These are:

- (a) **Facts.** Facts are those parts of information that can be sensed by our senses and can be related to objective reality as we know. Facts are considered to be totally accurate information and hence highly reliable for decision making purposes. For example, if a police officer witnesses a crime being committed, he can make the decision to arrest the criminal on the basis of the fact that the actual act of crime was seen and sensed by the police officer through his sense of sight and his analysis of this information.
- (b) **Inference.** Inference is deduction about a situation based upon circumstantial evidence. The stronger the supporting evidence, the stronger the inference and hence the closer the inference is to facts. For example, it has been determined that smoking causes cancer. This determination has been inferred from sample studies of data and this inference is so strong that it can be considered a fact. Similarly, in a recent criminal case, a well known football celebrity, O.J. Simpson was arrested on suspicion of murder because one right hand leather glove was found at Mr. Simpson's residence and the left hand glove of the same pair was found at the murder scene giving the strong inference to the detectives that Mr. Simpson was the suspect.
- (c) **Speculation.** Speculation is subjective in nature and can only be construed on the basis of certain clues. Speculative conclusions are not necessarily verifiable. For example, a person may be behaving in a certain manner and you may not be able to explain in a satisfactory way the reasons for such a behaviour. However, you may speculate as to the reasons and these reasons may or may not be the correct reasons.
- (d) **Assumptions.** These are the least reliable as far as the factual basis of information is concerned. They are entirely subjective in nature and are mostly based upon personal lines of reasoning. For example, you can assume that a person who is habitually late for work has some family problems. It may or may not be true. It is quite possible that the person so involved does not get any motivation from the work environment.

The classification of available information with regard to these four categories and their degree of reliability is illustrated as follows:

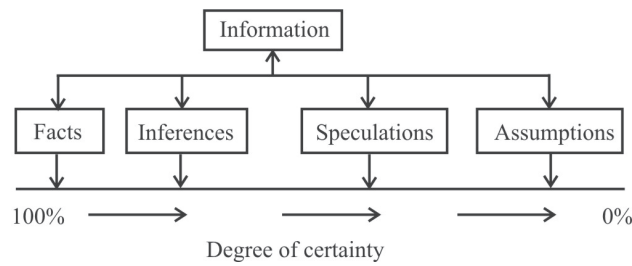


Fig. 8.6 Classification of Information

Source: James Gatzka, Jugoslov Multinovich and Glenn Boseman, 'Decision Making in Administration'. W.B. Saunders, 1979. p-9.

Step (4) Finding the root cause of the problem. Finding the very causes of the problem is the most important aspect of understanding the problem. The process is highly complex because the actual cause of a complex problem is embedded into many interdependent variables whose relationships may not be easily understood. The causes of the problem should not be confused with obvious symptoms. Symptoms are simply the indications of underlying causes so that the symptoms should not be construed as causes. For example, a recurrent sore on a finger may be due to skin cancer and hence the treatment should be for skin cancer rather than just the sore itself. Similarly, a manager's problem indicators are such factors as employee absenteeism, tardiness, negative attitudes, poor quality work and so on. The causes for these symptoms must be established before a solution can be found. Some of the symptoms and the potential causes for problem diagnosis purposes are shown below:

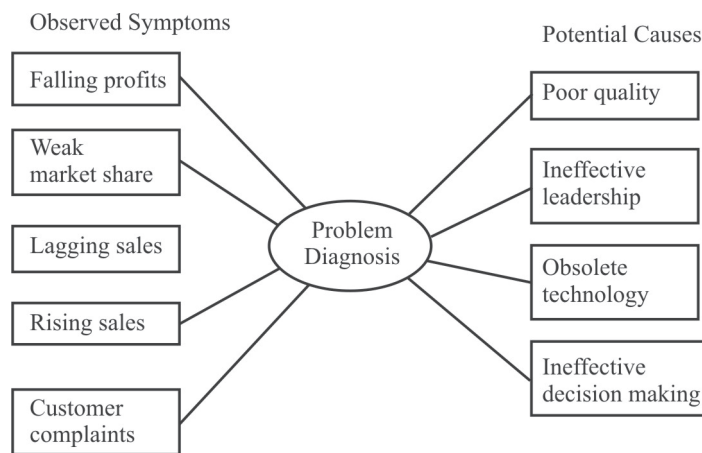


Fig. 8.7 Problem Diagnosis

Source: David H. Holt, 'Management : Principles and Practices' Prentice Hall, 1993. p-146.

Since finding the root cause is highly essential for the success of a decision, it is necessary to look at all angles to see if the symptoms fit into any of the

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known causes. The causes can be discovered in two ways. Either we can look for the causes that created the 'change' in the situation from what it was before or we can explain the situation from the 'ground up', which means studying the entire state of affairs in its entirety. The second way to find the cause is more complex. For example, if an employee suddenly starts drinking heavily and being overly depressed, it is very difficult to explain the reasons from the 'ground up.' There may be too many factors affecting the personality of this employee which may be so inter-related that it becomes almost impossible to pin-point the exact reasons for such a behaviour. In such a case, it may be easier to look for the factors that created such a change in behaviour. For example, it is quite possible that the employee started drinking because of sudden loss of a loved one.

Step (5) Identification of resources and constraints. Before any efforts are made to solve the problem, a critical look must be made at the resources available to be used in the solution as well as any constraints which might make the solution unfeasible. An example was the launching of two satellites in space from the space shuttle. These satellites went out of the controlled orbit and must be brought back to earth to analyze as to what went wrong. National Aeronautics and Space Administration (NASA) had to decide whether the cost of retrieval of these satellites was justified, whether the resources were available and whether there were any financial or technical constraints. NASA decided that the costs were justified and they had the technical know-how and hence the satellites were retrieved from space and brought back to earth.

Since at any given time, there may be more than one problem, these problems must be prioritized according to the urgency and the resources available and the problem of the highest priority must get the first attention. The management must make a list of resources and constraints that are pertinent to a given problem. The constraints may involve worker attitudes. For example one newspaper almost went bankrupt because the employees refused to reduce their demand for increase in pay. The lack of reconciliation on the part of employees impeded the solution to the problem of reduced profits and reduced cash flow for the newspaper.

Step (6) Development of criteria for successful solutions. Criteria are developed so that the alternative solutions for a problem under consideration can be compared against a set standard. The criteria should be established as early in the decision making process as possible so that such alternatives that do not measure up to these criteria can be discarded. This encourages creativity in designing different courses of action that are feasible in order to select the best one. The criteria must be consistent with the objective function so that the decision that meets the criteria will achieve the given objective.

The decision maker uses a number of criteria against which alternatives can be compared in order to separate the best alternative from other

alternatives. The best alternative would be the one which meets all the established criteria with the most beneficial results. The major criteria, of course, for any organizational decision is the maximization of profits, usually on a long term basis.

Krepner and Tregoe have proposed two different types of criteria. There is a 'must' criterion and there is a 'want' criterion. The 'must' criterion must be satisfied before any other alternative can be considered. 'Want' criterion is desirable and must be accommodated as much as possible. For example, if I am looking for a job, then this would constitute a problem for me. Some of the criteria that I could set for myself would be that I 'must' stay in New Delhi and the job 'must' be in the teaching area. I would 'want' to have a decent salary and I would prefer a college in the same general area as my house. The first two criteria must be satisfied. The last two criteria are desirable but can be foregone.

Step (7) Generation and development of alternatives. The next step in the decision making process is to generate possible solutions and their consequences to the organization. All possible solutions should be considered because the most obvious solution may not be the optimum solution. However, creativity should be encouraged so that the focus can be shifted to unique solutions. The degree and depth of creativity would greatly influence the quality of the decisions and consequently the results of actions that are based upon such decisions. Creativity must not be locked by personal values or perceptions about the problem. It must be objective and removed from emotions and cultural taboos that might affect the outcome of the decision.

Creativity is very important since it assists in developing a variety of alternatives. A lack of creativity puts constraints on the number of solutions and hence may evade the best solution. Creativity is specially necessary for unique problems and those recurring problems for which the used solutions do not effectively work. Creativity is basically the generation of new and innovative ideas or using old ideas in a new way from unsuspecting angles. A creative way of generating alternative solutions is by using the 'synectics' approach, suggested by Barron:

'Synectics in operation depends heavily on two mechanisms: making the strange familiar and making the familiar strange. The first of these is a search for similarity. When confronted with a new problem, we ask ourselves whether it is not an old problem, had we but the wit to see it. Seeing even partial resemblances may lead to the application of familiar methods in solving the new problem. Making the familiar strange is a way of shedding preconceptions and perceptual habits. Innocence of vision, a certain naivete and ingeniousness characterize the creative individual. If these qualities can be cultivated, the novelty of invention and problem solution should be increased'.

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The synectic approach encourages the creative individual to think around the problem rather than attacking it directly and look for minute and novel elements in the problem or the situation that could create a different angle of approach to the problem.

In searching for alternatives, some of the resources that can be drawn upon are as follows:

- The past experience of the decision maker who may find similarities between the current problem and previous problems encountered and successfully solved.
- Drawing on the experience of experts in the technical aspects of the problem, both from within the organization and outside consultants. For example, an employee morale problem can better be solved by industrial psychologists who have been trained to look at the causes of such problems.
- Considering the responses of the people who will be affected by the decision. These people may be the ultimate judges of whether the decision will be implementable or not. Many products introduced in the market have failed because the consumer opinion had not been taken into consideration. Similarly, if the problem is that of absenteeism, then the employees themselves could be asked for possible causes and possible solution?.

Step (8) Evaluating alternatives and selecting an alternative. The evaluation of alternatives and selecting the best alternative with the most advantages is the most critical part of the decision making process. A wrong choice would negate the effects of all efforts put in the preparation of the process. Finding the optimal choice requires the consideration of the possible impact of all alternatives in such a manner so that the chosen course of action will not only meet the requirements of the objectives but also eliminate the root cause of the problem. Some of the criteria against which the alternatives are to be measured are quantitative in nature such as return on investment, market share or net profits. Some other criteria are qualitative in nature such as consumer attitude, employee morale, ethics of the organizational mission and so on. The bottom line in any decision criterion is the benefit derived from it in financial terms. This may be in the form of cost effectiveness which means that for a given cost, the alternative with a greater degree of achievement of objective will be selected. Similarly, for a set level of achievement, the alternative with a lower cost will be accepted.

No matter how tangible the methodology of the decision making process may be, the effect of the personal judgement of the decision maker in choosing the best alternative is always dominant. This judgement will be a reflection of current management values, ethics, social commitment and

the organizational politics. This judgement cannot be quantified and hence must be based upon strong intuition and past experience.

Step (9) Implementation of the decision. Implementation means putting the selected alternative into action and seeing it through to its completion. The process of implementation starts with assigning responsibilities to persons who will be involved in carrying out the decision. The possibility of any resistance to changes should be examined, specially if it affects or conflicts with personal values and personalities and group norms or group objectives, if the decision has to be carried out by a group. The implementation, of course, becomes easier if the persons implementing it and persons affected by it were also involved in the decision making process and if they have some stake, financial or otherwise in the success of the solution.

It is essential to communicate the details of the decision and procedures for implementation to all the employees clearly, in detail and in a manner that would invite commitment and dedication. This commitment can further be improved if the implementation plan has provisions for any necessary modifications that may be required and the members of the organization should be empowered to modify the solution during implementation based upon their experience with it.

Step (10) Monitoring feedback. Feedback provides the means of determining the effectiveness of the implemented decision. If possible, a mechanism should be built into the process which would give periodic reports on the success of the implementation. In addition, the mechanism should also serve as an instrument of 'preventive maintenance' so that the problems can be prevented before they occur.

In many situations, computers are very successfully used in monitoring since the information retrieval process is very fast and accurate and in some instances, the self-correcting is instantaneous.

Monitoring the decision is necessary and useful irrespective of whether the feedback is positive or negative. Positive feedback reaffirms the correctness of the decision and the process. Negative feedback indicates either that the implementation requires more time, resources, efforts or planning than originally thought or that the decision was a poor one and needs to be re-examined.

Decision Making Conditions

In most instances, it is not possible for decision makers to accurately predict the consequences of an implemented alternative. This is partly due to the dynamics of the environment. The more complex the problem and more dynamic the environment, the higher the degree of uncertainty in predicting the outcome of a decision. In general, there are three different conditions under

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which decisions are made, these are: (1) complete certainty, (2) complete uncertainty, and (3) risk.

- **Decisions under certainty.** This is the simplest form of decision making. The condition of certainty exists when decision makers know exactly what the outcome of each alternative will be. The decision maker would simply select the alternative which has the best outcome. If the number of alternatives is relatively small then the outcomes can be compared with each other, either all at once and then picking the best or taking two alternatives at a time, comparing the two and discarding the inferior one and the better one of the two is compared with the next one and so on until all outcomes have been compared and the best one identified and selected.

However, if the number of alternatives is large then some mathematical tools are available to identify the best alternative.

An example would be buying a new car. Once the decision to buy the car has been made, there are a number of alternative ways of paying for the car. These alternatives include paying all cash, part cash and part loan, all loan so that you can put your own money to other quantifiable uses or lease the car on monthly or yearly rental. It is possible to calculate the total cost of each of these alternatives and choose the one which gives the lowest cost.

- **Decisions under uncertainty.** The condition of uncertainty exists when the decision maker has no idea as to what the outcome of the implemented alternative would be. Such problems arise when there is no past relevant historical data on which a judgement can be based. Decisions are generally made on the basis of intuition and the outcomes are a matter of chance. For example, in the case of marketing a new product, it is difficult to make judgements as to how much this product will sell in different geographical areas. When Sony Corporation introduced Data Disc-Man, it had no idea how successful the product would be. Sony's managers were working in an uncertain environment.
- **Decisions under risk.** Risk is probably the most frequent situation confronted by managers. A condition of risk exists when a decision must be made on the basis of incomplete but reasonably reliable information. In such situations, there is no longer just one outcome for each alternative but a number of possible outcomes with a given chance for each outcome. Such chance or probability for each outcome is known, calculated or assigned by the decision maker based upon his past experiences. For example, if you hire a new salesperson, you have some idea as to how much increase in sales you can expect, but you can never be sure.

Some Common Errors in Decision Making

Since the importance of the right decision cannot be overemphasized enough, it is imperative that all factors affecting the decision be properly looked at and fully investigated because the quality of the decision can make the difference between success and failure. In addition to technical and operational factors which can be quantified and analyzed, other factors such as personal values, personality traits, psychological assessment of the decision maker, perception of the environment, intuitional and judgmental capabilities and emotional interference must also be understood and credited in the decision making process. Some researchers have pin-pointed some areas where managerial thinking needs to be re-assessed and where some common mistakes are made that affect the decision making process as well as the efficiency of the decision, and these mistakes should be avoided as far as possible. Some of these drawbacks and limitations are:

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- 1. Indecisiveness.** Decision making is a very heavy responsibility. The fear of its outcome can make some people timid about making a decision. This timidity may result in taking a long time for making a decision and the opportunity may be lost. This trait is a personality trait and must be looked into seriously. The managers must be confident as well as quick in making decisions.
- 2. Postponing the decision until the last moment.** This is quite a common practice, known as 'procrastination', and results in decision making under pressure of time which generally eliminates the possibility of thorough analysis of the problem as well as the establishment and comparison of all alternatives, which is time consuming. Many students who postpone studying until near their final exams usually do not do well in the exams. Even though some managers work better under time pressures, adequate time period is most often required to make an intelligent decision. Accordingly, a decision plan must be formulated, time limits must be set for information gathering, analysis of information and selection of a course of action.
- 3. Failure to isolate the root cause of the problem.** It is a very common practice to cure the symptoms rather than the causes. For example, a headache may be a symptom of some deep-rooted emotional problem so that simply a medicine for headache would not cure the problem. It is necessary to separate symptoms and their causes. The success of the decision is dependent upon the correct definition of the problem.
- 4. Failure to assess the reliability of informational sources.** Very often, we take it for granted that the other person's opinion is very reliable and trustworthy and we do not check for the accuracy of the information ourselves. Most often, the opinion of the other person is taken so that if the decision fails to bring the desired results, the blame for the

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failure can be shifted to the person who had provided the information. However, this is a poor reflection on the manager's ability and integrity and the manager must be held responsible for the outcome of the decision. Accordingly, it is his moral obligation to analytically judge the accuracy and reliability of the information provided to him.

5. The method of analyzing the information may not be sound one. Since a lot of information is required, especially for non-programmed decisions, the procedures to identify, isolate and select the useful information must be sound and dependable. Usually, it is not operationally feasible to objectively analyze more than five or six pieces of information at a time. Hence, a model must be built which incorporates and handles many variables in order to aid the decision maker. Also, it would be desirable to define the objectives, criteria and constraints as early in the decision making process as possible. This would make the process more formal.

6. Fear of implementing the decision and follow-up. Making a decision is not the end of the process but really a beginning. The decision has no value until it is implemented. The outcome of the implementation of the decision is the true barometer of the quality of the decision. Duties must be assigned, deadlines must be set, evaluation process must be established and any contingency plans must be prepared. The decision must be implemented whole-heartedly and accepted by all in order to get the best results.

Check Your Progress

13. Define heuristic.
14. What is rational decision making?

8.8 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Communication has these forms: (i) speech, (ii) facial and body movements that show different emotions, (iii) touch, (iv) sign language used by the deaf, (v) arts such as music, dance and painting, and (vi) written symbols or words.
2. The four elements of language are words, grammar, speech and writing and alternative symbols or codes.
3. The Nativist Perspective states that children are born with a biological based system—called the language acquisition device (LAD)—for mastering language.

4. A major feature that distinguishes human beings from animals is their ability to use vocal speech as a means of communication.
5. Language use has two aspects—production and comprehension.
6. The process of encoding is to translate the sensory information or simply the stimulus around into codes so that they can be stored and later retrieved when needed.
7. The three types of memory are immediate or sensory memory, (ii) short-term memory, and (iii) long-term memory.
8. ‘Schemas’ are the mental models of different objects in the world in the mind.
9. The word ‘concept’ is used to designate both mental constructs of individuals and also identifiable public entities that comprise part of the substance of the various disciplines.
10. The process of primitive categorization of objects is called concept formation.
11. Creativity is the capacity of a person to produce compositions, products or ideas which are essentially new or novel and previously unknown to the producer.
12. Torrance compiled a list of 84 characteristics describing the traits of a creative personality.
13. A heuristic is a short-cut procedure that is relatively easy to apply and can often yield the correct answer, but not inevitably so.
14. Rational decision making is a process involving several steps that lead managers towards optimal decisions.

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8.9 SUMMARY

- A major feature that distinguishes human beings from animals is their ability to use vocal speech as a means of communication.
- Speech is the most important form of communication.
- Language permits the communication of information from one generation to the other. Language makes available the wisdom as well as the errors of the past to the present generation.
- Even though language is the medium in which we communicate meaning, it still cannot transfer meaning as the range of meaning itself is diverse. For example, there are covert meanings which refer to those ideas that are not communicated in language, but the meaning is implied.

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- Effective communication can only take place if the sender and receiver share the same mode of language structure. This aspect of common language is mandatory in arriving at a fruitful mode of communication.
- A major feature that distinguishes human beings from animals is their ability to use vocal speech as a means of communication. Sometimes the words ‘speech’ and ‘communication’ are used as if they mean the same thing.
- Broadly speaking, the tools of communication may be categorized under two heads—signs and symbols. Symbols are unique to human beings.
- Language permits the communication of information from one generation to the other.
- Forgetfulness is usually regarded as a liability and memory as an asset. It is the opposite of learning. Forgetfulness is considered as an evil of life as several times necessary things are forgotten but not the unnecessary ones.
- Atkinson and Shiffrin proposed the memory model in terms of three stores: (a) Sensory store; (b) Short-term store; and (iii) Long-term store.
- The two-process theory of memory can also be referred to as the ‘memory information processing theory’, which was first proposed by R.C. Atkinson and R.M. Shiffrin (1968).
- Some parts of the brain have a very important role to play in memory. The three areas of the brain which contribute to memory are hippocampus, amygdala and cerebral cortex.
- Thinking is a process like perceiving and remembering. Thinking is of several kinds, such as reverie, association, reasoning, imagination, day-dreaming.
- A concept is the basic unit of all types of learning. Human beings from infancy to old age, learn new concepts and use old concept in new situations of their daily life.
- The word ‘concept’ is used to designate both mental constructs of individuals and also identifiable public entities that comprise part of the substance of the various disciplines.
- In 1980, Guilford stated, “Of all the qualities that man possesses, those that contribute to his creative thinking have been most important for his well-being and his advancement.”
- Creativity is the capacity of a person to produce compositions, products or ideas which are essentially new or novel and previously unknown to the producer.

- According to Guilford (1959), creative thinking means divergent thinking and uncreative thinking means convergent thinking.
- J P Guilford clearly distinguished between the intellectual operations of ‘divergent thinking’ (creative process) and ‘convergent thinking’ (which represents intelligence). According to him, every intelligent person may not be creative but a very high percentage of creative people possess a great degree of intelligence.
- Decision making is one of the most important spheres of managerial activities. Generally, the decision making process is seen as only one of the several activities of managers and other upper management personnel.

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8.10 KEY WORDS

- **Language:** Language is a system that consists of the development, acquisition, maintenance and use of complex systems of communication, particularly the human ability to do so; and a language is any specific example of such a system.
- **Communication:** Communication is the act of conveying meanings from one entity or group to another through the use of mutually understood signs, symbols, and semiotic rules.
- **Chunking:** In cognitive psychology, chunking is a process by which individual pieces of information are bound together into a meaningful whole.

8.11 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What are the functions performed by language?
2. What are the different levels of language?
3. Write a short note on ‘Theory of Forgetting’.
4. What are the main postulates of the Atkinson and Shrifin model of memory?
5. What are the different methods used for memorizing?

Long Answer Questions

1. Discuss the theories of language.
2. What are the four stages of memory? Discuss in detail.

3. What are the different levels of concept development? Explain.
4. What are the characteristics of a creative personality? Discuss.
5. Explain the structure of problems.

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8.12 FURTHER READINGS

Coleman, Andrew. 2016. *What is Psychology?* Routledge: United Kingdom.

Nicholas, Lionel. 2009. *Introduction to Psychology*. Juta and Company Ltd: South Africa.

Brewer, Kevin. 2001. *Clinical Psychology*. Heinemann: Australia.

Eysenck, Michael. 1994. *Perspectives on Psychology*. Psychology Press: United Kingdom.

UNIT 9 ATTENTION AND PERCEPTION

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Structure

- 9.0 Introduction
- 9.1 Objectives
- 9.2 Definition of Attention
 - 9.2.1 Mechanism of Attention
- 9.3 Determinants of Attention
 - 9.3.1 Selective, Divided and Focused Attention
- 9.4 Theories of Attention
- 9.5 Answers to Check Your Progress Questions
- 9.6 Summary
- 9.7 Key Words
- 9.8 Self Assessment Questions and Exercises
- 9.9 Further Readings

9.0 INTRODUCTION

The role of attention in perceptual learning is not entirely understood. There is still some controversy over whether attention to a feature to be learned is necessary for perceptual learning to occur. A considerable number of studies have tackled the question of *exposure-based learning*: Can mere exposure to a stimulus feature—without the performing of a task on the feature—induce perceptual learning? But this issue might not be resolved without one's taking into consideration that there are two types of attention: top-down and bottom-up.

9.1 OBJECTIVES

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

- Discuss the definition and mechanism of attention
- Explain the determinants of attention
- Describe divided and sustained attention
- Learn about the theories of attention

9.2 DEFINITION OF ATTENTION

On account of the complex character of attention, psychologists defined attention in a number of ways.

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1. **According to EB Titchener** (1867–1927), “The problem of attention centres in the fact of sensible clearness.”
2. **McDougall** (1920) observed, “Attention is merely conation or striving, considered from the point of view of its effect on cognitive process.”
3. **B Dumville** (1938) was of the view, “Attention is the concentration of consciousness upon one object rather than upon another.”
4. **J B Morgan** and **A R Gilliland** (1942) defined, “Attention is being keenly alive to some specific factor in our environment. It is a preparatory adjustment for response.”
5. According to **I W Stout** (1953): “Attention is conation determining cognition. The stronger the conation, the more intense is the attention.”
6. **J S Ross** (1954) said, “Attention is a process of getting an object of thought clearly before the mind.”

Chief Characteristics of Attention

From the definitions and meaning as given above, chief characteristics of attention may be noted as:

1. Attention is a form of activity of the mind.
2. Attention is cognitive, affective and conative.
3. Attention is selective.
4. Attention has a narrow range.
5. Attention is increase of clearness of the stimulus.
6. Attention is a state of consciousness.
7. Attention is mobile and moves from one object or idea to another.
8. Attention is attracted by new things.
9. Attention makes clear and vivid the objects which we attend to.
10. Attention arouses interest in an individual to focus concentration on a particular object to the exclusion of others.
11. Attention can be developed and promoted.
12. Attention affects motor adjustments such as postural adjustment (how to sit, stand, etc.), muscular adjustment and adjustment in the central nervous system.

9.2.1 Mechanism of Attention

Attention is the basic need for all successful teaching. It is the primary precondition for all types of our mental activity—cognitive (knowing), affective (feeling) and conative (acting). Attention is the heart of the conscious process. It is the concentration of consciousness of one object or idea rather than the other. Attention may be compared to the action of a photographic

camera. Just as the camera is focused on a particular object or an individual or group leaving out others, in the same way attention is concentrated on a particular object. Other objects are left in the background either unconsciously or subconsciously.

Every single moment of a child is attracted by a large number of stimuli of the environment. His mind is not able to concentrate on all these at the same time. The objects which occupy the centre of consciousness are within the field of attention. Other objects which do not receive his attention are included in the field of inattention. It is on this account that attention has also been described as a selective process of the mind.

While we are conscious of every object we attend to, we do not attend to every object that we are conscious of. Consciousness, therefore, is a wider field and includes attention. We attend to a part in the field of consciousness, the rest is not attended to. While we are looking at a picture in the classroom, we are also conscious of a large number of other objects in the classroom. But the picture is the ‘focus’ of our consciousness. As the picture is the ‘spotlight’ of attention, other objects in the room—chairs, desks, etc. remain at the margin of consciousness. Thus, there are two fields: one of ‘attention’ and the other of ‘inattention’.

Attention is an attitude of mind. It denotes ‘preparedness’ or ‘readiness’ to do something. This was reflected in Woodworth’s citing of military command ‘attention’ and the athletic call ‘ready’.

According to F H Bradley, attention is a complex of sensation and ideas.

While Wunct laid stress on the cognitive aspect of attention, Maudsley, Ribot and Munsterberg emphasized the conative aspect of attention. Titchener stressed on the affective aspect of attention.

Check Your Progress

1. Define attention.
2. What are the different types of mental activity?

9.3 DETERMINANTS OF ATTENTION

Attention can be described as a process that brings some stimuli into the focus. As a result, those stimuli become distinct and clearer than objects that lie outside. Until the time they remain out of focus, either we do not observe them at all or they appear very hazy. Attention may also be further described as a process of adjustment of the organism to the stimulus situation. When one attends to a noise coming from a distance, his auditory receptors become specially prepared to receive the stimulus.

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Hence, attention is a condition of preparedness or alertness. When one is attentive, some organs become specially prepared to receive the stimulus. Besides receptor adjustment, there is also effector adjustment in attention. The muscles of the body are specially prepared to attend to the object of attention, or to engage in the activity that is in the focus of attention.

Determinants of attention

The determinants of attention may be external/objective or they may be internal/ subjective.

External or objective determinants

- **Intensity/strength of the stimuli:** A more strong or intense stimulus is more likely to arouse attention than a less strong or weak stimulus. Our attention is easily directed to a loud sound, a bright light or a strong smell.
- **Size of the stimulus:** A large object is more likely to catch the attention of a person than a small object.
- **Duration of the object:** A light or sound catches our attention if the stimulus is continuous, it is less likely to hold a person's attention as compared to the stimulus that comes and goes at intervals.
- **Moving object:** This catches our attention more easily than sameness and absences of change. An advertisement in white and black or red and green, is more likely to attract attention than the same advertisement in white and red, green or yellow.

Internal or subjective determinants

- **Interest:** Objects, activities or tasks that we like catch or hold our hold attention.
- **Needs and desires:** Objects and activities that fulfil desires, or serve some purpose that a person is more likely to be attracted to, e.g., if one may like a particular type of game. The fruit and article used in the game are more likely to catch his attention than other objects.
- **Goals of the individual:** A particular goal of an individual attracts his attention with that specified goal, such as the sight of an object of food is more likely to strike the attention of a hungry man as compared to someone who has just had food. If a person goes out to buy a pair of shoes, his attention will be attracted more by shoe shops than any other shops.

Important facts about attention

If a very mild stimulus is present, like the ticking of time piece heard from a distance, or a point of distant light, the ticking or the light may appear to

come and go. At one moment it is within our attention, at the next movement it passes out of our attention. This is called fluctuation of attention.

Shift of attention

We cannot hold our attention for a long period of time. A child's attention is weary and is always shifting. It flits from object to object. It cannot remain fixed on the same object. An adult can concentrate his attention. When the shift of attention is limited to related objects and attention, it is said to be observed or concentrated, unrelated objects or activities fail to catch attention. When unrelated stimuli attract and hold once attention, attention is said to be distracted. As interests develop in certain types of objects or activities, attention to the objects and activities become effortless, spontaneous and involuntary.

The more the objects one can hold in a single cut of attention, the more the number of objects one can grasp in a single moment of attention, and thus, the larger his grasp of attention. Individuals differ in their spans of attention. Experiments have been done on the span of attention for letter or digits. It has been found that most persons can attend to four to five letters in our moment of attention out of a much larger number. However, some persons have been noticed to grasp seven or eight letters or digits in a single moment of attention.

A person's span of attention has influenced his speed of reading. A fast reader can grasp many more words in one glance than a slow reader.

9.3.1 Selective, Divided and Focused Attention

Attention also involves mental preparedness or alertness. When someone gives attention to a task, the mental activities related to the task become especially acute. This increase in mental alertness is noticed in improvement in the performance of the task. Attention is the key process and perception cannot occur without the occurrence of the attention process. However, attention precedes perception. It can be qualified into the following types:

- **Alertness:** Attention in this sense means a state of focused consciousness with readiness to respond. (e.g., if asked some questions). Distraction occurs when some interference (e.g., loud noise) disturbs an individual while doing some work.
- **Selective functions:** Selectivity is the state of focusing on a particular stimulus or part of one's environment with exclusion of all other elements and stimuli in the environment. This kind of attention acts as filter which lets only the chosen information in and the rest out. Generally, visual perception happens in two stages. First, the mind perceives the environment as a whole, and in the second stage, attention is concentrated on the selected elements of the visual scene.

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- **Limited capacity channel:** Human beings' capacity of absorbing the information available in the external environment is only limited. When we coordinate our attention span between two or more tasks, it is known as divided attention. However, the human mind has the capability to switch the entire attention to a single task and ignore all simultaneous tasks, when required. For example, when one is driving and talking on the phone, attention is divided. However, experienced drivers are able to shift attention completely to driving at a tricky turn or something that requires more concentration than usual. However, it is dangerous to talk while driving because the mind may not be able to switch attention quickly enough and an accident may happen as a result.
- **Vigilance function:** Continuous focused attention on a task or stimulus for a considerable duration, e.g., looking at the light on a radar screen, is known as vigilance or sustained attention or focused attention. Focused attention is extremely short-term phenomena, sometimes as short as 8 seconds. This level of attention may happen when your phone rings while you are working with concentration. However, within a few seconds, you are likely to look away, go back to what you were doing, or focus on something else altogether.

Sustained Attention

The ability to direct and focus cognitive activity on specific stimuli is called sustained attention. Sustained attention is required to complete any cognitively planned activity, any action which is sequenced or any thought. For example, while reading a newspaper one must be able to focus on the act of reading to finish the task. However, distractions can hamper the completion of such tasks. A distraction can interfere in sustained attention.

According to DeGangi and Porges (1990), there are three stages of sustained attention. These stages are attention getting, attention holding, and attention releasing. According to psychologists, sustained attention is the basic requirement for information processing. It is important for cognitive development.

Check Your Progress

3. Define sustained attention.
4. What are the three stages of attention?

9.4 THEORIES OF ATTENTION

There are different theories of attention. Some of the most popular theories of attention are:

I. Capacity-Limitation Theories

Most of the psychologists who attempted to produce a theory of attention in the nineteen sixties and seventies were deeply influenced by Donald Broadbent's picture of attention which corresponded to a bottleneck in information processing capacity. This picture resulted from the connection of two separate perceptual processing systems. The first piece of business for these psychologists was to locate this attentional bottleneck by determining which sorts of processing are done by the large capacity, pre-bottleneck system, and which by the small capacity, post-bottleneck system. Debates between these psychologists gave rise to various theories in which the selectivity of attention was characterized with a claim about the location of this bottleneck.

Early Selection Theory

The 'early selection' theory of attention was defined by Broadbent's own account of the distribution of processing between the pre-attentional system and the post-attentional system. According to him, only very simple properties are detected by the large capacity system. Also, any semantic properties or properties associated with the particular identity of a stimulus are detected only after representations of the stimulus have passed through the attentional-bottleneck and into the smaller capacity system.

Late Selection Theory

The 'late selectionists' were the chief rivals of Broadbent's early selection theory. They claimed that there is a large capacity system that operates on all of the stimuli with which any particular subject is presented. This system is capable to detect perceivable properties automatically. According to this late selection theory of attention, the consequences of passing through the bottleneck of attention into the post-attentive small capacity system are (1) that the subject becomes conscious of the contents that the large capacity system has already succeeded in encoding and (2) that those contents come to be stored in working memory (Deutsch and Deutsch, 1963). The main proponent of the late selection theory was that the effect of withdrawing attention from a stimulus arises because of the fact that the stimulus got processed without the subject being aware of it, rather than not being processed at all.

II. Feature Integration Theory

In the early 1980s, Anne Treisman and her collaborators identified the existence of 'the binding problem'. They also described a process that could solve that problem. Treisman proposed that attention be identified with this process. This process is known as the Feature Integration Theory of Attention. This theory proved to be extremely influential that led to research for the question of the binding problem. Sensory information arrives in the form of

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several cues which include shapes, smell, motion, sound, all of which are encoded in partly modular systems. Due to the presence of many objects at once, an urgent case of what is called ‘binding problem’ occurs. These cues are required to be collected and bound into spatial and temporal bundles. These bundles are then interpreted to specify their real world origins.

III. Coherence Theories

The view that the function of attention is the management of limitations that arise in the information processing capacity has been an orthodox one among psychologists since it has been introduced by Donald Broadbent in the nineteen fifties. However, the view has sometimes been called into question as well. The theories of attention that have been proposed by philosophers have restrained from endorsing any straightforward version of the capacity-limitation view. There are reasons to think that the simplest versions of such a view are mistaken. In the nineteen seventies, Ulric Neisser and his collaborators carried out a series of experiments which showed that an appropriately trained subject can perform two attention-involving tasks concurrently, without much interference between them (Hirst et al., 1980, Neisser, 1976). Neisser interpreted these experiments suggested that attention is required to manage. It needs to be a bottleneck in behavioural coordination, rather than in information processing capacity.

Simple bodily limitations prevent us from looking in two directions simultaneously, or from batting and writing with the same hand. Neisser’s suggestion was that in many cases cognitive processing was selective. The selectivity was not in the case of limitations in processing capacity, but only in so far as such bodily limitations required it to be. Odmarr Neumann and Alan Allport developed a similar idea in two papers from 1987 which were authored individually but published in the same volume. Neisser emphasized on the constraints that are imposed on cognition by the need to manage a single body but Neumann and Allport both emphasized on the constraints that are placed on cognition by the need to maintain a coherent course of action. They describe their position as a ‘selection-for-action’ theory. If the ‘action’ mentioned here refers to bodily behaviour then the selection-for-action theory is very similar to Neisser’s view. But if we extend the notion of action to include deliberate mental activities, such as reasoning, for which no bodily limitations are in play, then Neumann and Allport’s point retains its force. There is here an “analogy between practical and theoretical and activity”, which was noted by G. F. Stout in a paper published in 1891: Thinking is action directed towards intellectual ends which are attained by an appropriate combination of movements of attention just as the way practical ends are attained by an appropriate combination of movements of the body. Therefore, if we desire to explain the process of thinking, we need to clearly determine the nature of active attention. (Stout, 1891, p. 23)

IV. Precision Optimization Theories and Prediction Error Coding

The idea that there might be reasons for attentional selection that have nothing to do with processing bottlenecks has also been a theme in the work of psychologists hoping to understand perception as a process of Bayesian inference (Friston et al. 2006, Summerfield & Egnér, 2013), and in the work of those philosophers who have been influenced by them (Hohwy, 2013; Clark, 2013, 2017).

In what has come to be the most developed version of this Bayesian approach to the mind (Hohwy, 2013, Clark, 2013), cognition as a whole is seen as a process of Bayesian updating. In this process, a hierarchically-organized series of hypotheses is constantly being tested, with each hypothesis being updated in the light of evidence coming from the level below. Advocates of this theory attempt to find room within this hierarchical framework for all aspects of cognition, including perception, thought, and action. A central claim of this theory is that the information that gets passed up through this hierarchy is encoded in the form of signals representing the errors in the predictions that are made by the hypotheses at the hierarchy's next level up, with the content of one's experience at any time being given by whichever hypothesis makes the least erroneous predictions. Given their commitment to prediction-error coding, a central claim of these theories is that the role of our sensory encounter with the world is to provide information about the way in which our prior hypotheses get things wrong: instead of providing us with the information that it has started to rain, our senses provide only the information that it is more rainy than we had expected.

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Check Your Progress

5. Mention any two theories of attention.
6. When does 'binding problem' occur?

9.5 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Attention is the concentration of consciousness upon one object rather than upon another.
2. Different types of mental activity are cognitive (knowing), affective (feeling) and conative (acting).
3. The ability to direct and focus cognitive activity on specific stimuli is called sustained attention.
4. The three stages of attention are getting, attention holding, and attention releasing.

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5. Two theories of attention are early selection theory and late selection theory.
6. Due to the presence of many objects at once, an urgent case of what is called 'binding problem' occurs.

9.6 SUMMARY

- Attention is merely conation or striving, considered from the point of view of its effect on cognitive process.
- Attention is the basic need for all successful teaching. It is the primary precondition for all types of our mental activity—cognitive (knowing), affective (feeling) and conative (acting).
- Every single moment of a child is attracted by a large number of stimuli of the environment. His mind is not able to concentrate on all these at the same time.
- While we are conscious of every object we attend to, we do not attend to every object that we are conscious of.
- Attention is an attitude of mind. It denotes 'preparedness' or 'readiness' to do something. This was reflected in Woodworth's citing of military command 'attention' and the athletic call 'ready'.
- Attention can be described as a process that brings some stimuli into the focus. As a result, those stimuli become distinct and clearer than objects that lie outside.
- Hence, attention is a condition of preparedness or alertness. When one is attentive, some organs become specially prepared to receive the stimulus.
- If a very mild stimulus is present, like the ticking of time piece heard from a distance, or a point of distant light, the ticking or the light may appear to come and go.
- We cannot hold our attention for a long period of time. A child's attention is weary and is always shifting. It flits from object to object. It cannot remain fixed on the same object.
- Attention also involves mental preparedness or alertness. When someone gives attention to a task, the mental activities related to the task become especially acute.
- The ability to direct and focus cognitive activity on specific stimuli is called sustained attention. Sustained attention is required to complete any cognitively planned activity, any action which is sequenced or any thought.
- Most of the psychologists who attempted to produce a theory of attention in the nineteen sixties and seventies were deeply influenced

by Donald Broadbent's picture of attention which corresponded to a bottleneck in information processing capacity.

9.7 KEY WORDS

- **Cognition:** Cognition is the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses.
- **Concentration:** The action or power of focusing all one's attention is called concentration.
- **Stimulus:** A thing or event that evokes a specific functional reaction in an organ or tissue is called stimulus.

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9.8 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Write a short note on attention.
2. What are the chief characteristics of attention?
3. What are the determinants of attention?
4. What is the main cause of 'shift in attention'?

Long Answer Questions

1. Discuss the mechanism of attention in detail.
2. Define selective, divided and focused attention.
3. What are the major theories of attention? Discuss.

9.9 FURTHER READINGS

- Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.
- Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.
- Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.
- Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.
- Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

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UNIT 10 APPROACHES TO THE STUDY OF PERCEPTION

Structure

- 10.0 Introduction
- 10.1 Objectives
- 10.2 Gestalt and Physiological Approaches
 - 10.2.1 Gestalt Approach
 - 10.2.2 Physiological Approach
- 10.3 Perceptual Constancy
 - 10.3.1 Illusion
 - 10.3.2 Perception of Depth
 - 10.3.3 Perception of Movement
 - 10.3.4 Ecological Perspective on Perception
- 10.4 Answers to Check Your Progress Questions
- 10.5 Summary
- 10.6 Key Words
- 10.7 Self Assessment Questions and Exercises
- 10.8 Further Readings

10.0 INTRODUCTION

Perception is a process by which organisms select, organize and interpret the stimulus (people, places, objects and situations) in order to give meaning to the world around them. When you see a flower, sensations of colour, smell, touch are aroused. Thereby, brain tries to associate meaning with these sensations and the object is perceived as a flower.

Perception is a complex process because it is a combination of a number of sub processes.

Receptor process: The first process involved in the process of reception is the receptor process. For example, the rose stimulates three receptor cells and three different receptor processes of eye, nose and touch.

Unification process: For perceiving rose, unification of all the three sensations are required.

Symbolic process: Every object reminds us of something, and so a symbol is attached to it. Every time the rose is perceived, the symbol gets associated with it.

Affective process: Every object also represents some emotions, pleasant or unpleasant. Thus it is concluded that perception is a complex process and involves sensations and past experience.

It is important to understand that the way in which selection of stimulus takes place. The principles by which people organize isolated parts of a visual stimulus into groups or whole objects are governed by laws of grouping.

10.1 OBJECTIVES

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

- Understand Gestalt and physiological approaches to the study of perception
- Discuss the meaning of perceptual constancy
- Describe the perception of depth and movements
- Learn about the ecological perspective on perception

10.2 GESTALT AND PHYSIOLOGICAL APPROACHES

Let us now study the Gestalt and Physiological approaches to the study of perception.

10.2.1 Gestalt Approach

Gestalt school of psychology developed as a movement against the theory of behaviourism and conditioning. Gestalt school, in its present form, has been developed by the continuous contribution of psychologists from time to time. Though, formally, it developed in the last part of first decade of the 20th century, its beginning may be traced back to the initiative at Wurzburg school of imageless thought. Kulpe, who studied higher mental process, redefined psychology as the science of facts of experience- an inductive science whose peculiar property is the dependency of facts of experience upon experiencing individuals. Max Wertheimer who afterwards became the founder of Gestalt psychology worked with Kulpe for his Ph.D. degree. The Wurzburg school from 1901–1909 conducted a number of experiments on thought process which had direct relevance to Gestalt school of psychology. The next important contribution was made by Edgar Rubin (1886–1951) who conducted experiment on visual perception of figure-ground phenomena.

Franz Brentano (1838–1917) developed Phenomenology and Act Psychology. He defined psychology as the science of physical phenomena, regarding phenomena as active rather than static acts of a person. He introduced Act Psychology at the University of Graz in Austria; two students (Ehrenfels and Alexius) of Franz Brentano worked on Act Psychology and form quality and conducted experiments.

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Birth of Gestalt Psychology

The birth of Gestalt psychology can be traced from 1912 when Wertheimer published his classic papers on “Phenomena” (apparent movement). Explaining the process of Phi-phenomena he wrote:

“Two objects were successively given as stimuli. They were perceived. First ‘*a*’ was seen, then ‘*b*’, between, ‘*a*’ motion from ‘*a*’ to ‘*b*’ was seen, without the corresponding motion or the spatially and temporarily continuous positions between *a* and *b* actually being exposed as stimulate. When the time interval flashes between *a* and *b* are over 200 milliseconds the phenomenal appearance is one of succession. In “phi-phenomenon” no trace of an object is left, only pure motion is perceived.” The experiments on phi-phenomena are the results of the cooperation of Kurt Koffka and Wolfgang Kohler at the University of Frankfurt.

Tenets of Gestalt Psychology

Gestalt is a German word which means form, shape or configuration and Gestalt psychologists have added the meanings organic whole and organization to it.

1. **Whole is important.** The first principle of Gestalt psychology is that it is the whole which determines the behaviour of its parts. We perceive whole not parts. It was a revolutionary finding against the elementalistic psychology that emphasized the importance of parts. It was the automistic concept of behaviour which was challenged by Gestalists. Werthiemer said: “There are contexts in which, what is happening in the whole, cannot be deduced from the characteristics of the separate pieces, but conversely; what happens to a part of the whole is, in clear-cut cases, determined by the laws of inner structure of its whole.”
2. **Phenomenological approach.** The Gestalt approach is phenomenological oriented and is anti-positivistic. It is a molar approach to behaviour.
3. **Opposition to quantification.** Gestalt school of psychology is against the quantification of human behaviour. They emphasize the importance of qualitative assessment of behaviour.
4. **Measuring tools unreliable.** They have no faith in the reliability and validity of measuring tools. They were against the behaviouristic approach to human behaviour on the basis of stimulus-response (S-R) connections. They introduced the concept of organization in between stimulus-response (S-R) connections.
5. **Laws of perception.** Gestalt psychology emerged out of experimental findings on perception. The following principles of perceptions have been developed by Gestalt psychologists:

- (i) **Pragnanz.** The principle of pragnanz means that our perception organization will always be as good as the prevailing conditions allow. The principle plays an important role in motivation.
- (ii) **Closure, proximity and similarity.** Gestalt laws also follow these three principles. Closure means that mind has a tendency to complete imperfect wholes into perfect and closed forms. A dynamic variation of the laws of pragnanz is the principle of closer which operates in perception, thought, action and memories.

According to the principle of proximity, objects are perceived as a unity when they are observed in close proximity. The principle of similarity states that objects observed in like forms or colour will be perceived as assuming a grouped formation.

- 6. **Psychophysical isomorphism.** The concept of psychophysical isomorphism was borrowed by Kohler from his professor Max Planck who developed quantum theory. Psychophysical isomorphism means that Gestalt is both physical and mental. The brain functions tend to take the form of specific molar events corresponding to those structures that are found in experience. Kohler defined isomorphism “as the thesis that our experiences and the processes which underlie these experiences have the same structure.”
- 7. **Insight.** Gestalt psychologists developed the theory of learning by insight. The theory of productive thinking emphasized the importance of perceiving meaningful wholes, grasping relations and finally acquisition of insight. The theory will be discussed in detail in a subsequent chapter on cognitive theories of learning.

Kurt Lewin worked with Kohler and Werthimer as an assistant in the psychological institute at the University of Berlin. He was very much impressed by Holistic psychology propounded by them. Though he never became a Gestaltist but he was convinced of the approach of Gestalt psychology. He developed his own approach popularly known as the Field Theory.

10.2.2 Physiological Approach

A sensory system is a part of the nervous system which is responsible for processing sensory information. A sensory system consists of neural pathways, sensory receptors, and parts of the brain which are involved in sensory perception. The most commonly recognized sensory systems are for hearing, vision, somatic sensation (touch), olfaction (smell) and taste. The immune system is an overlooked sensory modality. The specific part of the world to which a receptor organ and receptor cells respond is called a receptive field. For example, the part of the world that an eye is able to see is its receptive field. Receptive fields have been found for the auditory

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system, visual system and somato-sensory system, so far. Research attention is currently focused on external perception processes and «Interoception», considered as the process of receiving, accessing and appraising internal bodily signals. It is critical for an organism's well-being and survival to maintain desired physiological. Interoception is a process which requires the interplay between perception of body states and awareness of these states so as to trigger proper self-regulation. Afferent sensory signals continuously interact with higher order cognitive representations of history, goals and environment which shape the emotional experience and motivating regulatory behavior.

Check Your Progress

1. What is the meaning of the word *Gestalt*?
2. What is the principle of pragnanz?

10.3 PERCEPTUAL CONSTANCY

The tendency to perceive an object you are familiar with as having a constant size, shape and brightness despite the stimuli changes that occur is called perceptual constancy.

Suppose you are at a neighborhood auto stand with a friend. You see the auto coming from a distance. From a distance, the auto looks like a mere dot in your field of vision. If you put up your palm, you will notice that you can cover the entire area of the auto with your palm. As the auto comes near the auto, it begins to take up more and more of your field of vision. Your palm no longer covers the area of the auto.

By the time the auto reaches the stand, you realize that the auto is quite big. Despite the fact that the auto now takes up a majority of your field of vision, you don't perceive the auto as having grown. You know that the auto has the same size, shape, and colour now as it did when you saw it in the distance. The reason you know this is due to perceptual constancy.

10.3.1 Illusion

An illusion may be defined as a subjective perversion of the objective content of sense perception. We know that the subjective or inner factor is always highly important in perceiving and very often becomes predominant. It can give rise to no surprise, therefore, that we take things for other than they are. Such erroneous perceiving is called illusion.

Some illusions are more or less constant and practically universal. Others vary with our emotions and our moods, our interests and our attention. As a rule we cannot help seeing a vertical line as longer than a really equal

horizontal line, and thus a mathematically perfect square always seems too high for its breadth.

Under certain conditions, extremely straight lines will appear curved, parallel lines inclined to one another and in spite of the fact that we know the true state of matters we cannot help seeing the false. In the same way, we cannot help feeling a small object heavier than a similar but larger object of equal weight, even when we know the weights to be equal.

Thus we can say that when there is a discrepancy between what we perceive and the actual facts then the experience is simply termed as illusion. For example, if a straight rod is immersed in a glass of water then it appears bent. This false perception is called as illusion. Thus an illusion is a misinterpretation of the correct meaning of perception. The personal illusions are those which differ from individual to individual. General illusions are of a universal kind and are similar in the case of every person, like geometrical illusions are common to all individuals. The common example of such an illusion is called Muller Lyer Illusion. This illusion is an optical illusion. In this illusion in Figure 10.1 a straight line is divided into equal parts at the middle angle but the left part appears longer. The lengths of the two lines are equal but it seems that outward pointing arrows is longer.

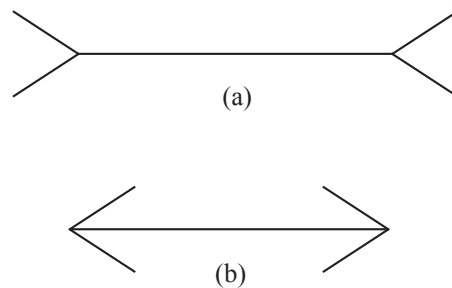


Fig. 10.1 Optical Illusion

According to Woodworth, if vertical movements of the eye are more strenuous than horizontal a given vertical distance calls for more effort than the same horizontal distance and therefore seems longer. Again if the outward lines in one part of the Muller lyer figure cause the eye movement to exceed the length of the included line, whereas in the other part of the figure the inward pointing lines cause the eye to move a smaller distance the first line will seem longer than the second. A less direct form of the eye movement theory admit that actual eye movement theory admits that actual eye movement do not occur in all cases, but assumes that a tendency to such movement is sufficient to give the impression of length.

There are many causes of illusion.

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- 1. Inaccuracy of perception because of confusion:** The individual sometimes becomes so much engrossed in the object he perceives that he gets confused and is not able to perceive correctly.
- 2. Defective sense organ:** Some problem with the sense organs creates incorrect perception for example if a person has some problem in the eye then he will have incorrect visual perception or a defect in the ear may cause incorrect hearing perception.
- 3. Eye movement:** The best example of incorrect perception due to eye movement is Muller Lyer illusion. The line A appears longer than line B because of eye movement.
- 4. Emotion:** When a person is emotionally aroused then the perception is not correct which causes illusion. Under intense emotions the rope looks like a snake.
- 5. Contrast of stimuli:** Contrasting stimuli also cause illusion. For example a bright object appears more appealing and bright if it is viewed next to a dark and dull object due to the sharp contrast.
- 6. Perceive the object as a whole:** This theory to perceive the objects as whole was given by Gestalt psychologists. The individuals have a tendency to perceive as a whole good figure.

10.3.2 Perception of Depth

Humans have two eyes, and each eye receive different images. Humans perceive depth by coordinating the images of our left and right eyes to perceive stereoscopic depth, which is important for the visual perception of three-dimensional space. Thus depth perception is actually considered to be the visual ability to perceive the world in three dimensions.

It is believed that all animals who are moving have a sensation of depth. This depth perception helps all the moving animals including human beings to move accurately and to make a response based on the distances of objects in the environment.

Depth perception occurs because of depth cues. These cues are either binocular which means the input from the environment is from both the eyes and monocular cues that require the input from just one eye. Monocular cues helps in judging the relative distance and depth of the objects.

Some of the monocular cues are Relative size, Interposition, Linear perspective, Aerial perspective, Light and shade.

Relative size: Retinal image size allow us to judge distance based on our past and present experience and familiarity with similar objects.

Interposition: Interposition cues means when there is superposition of objects. The overlapped object in Figure 10.2 is considered further away.

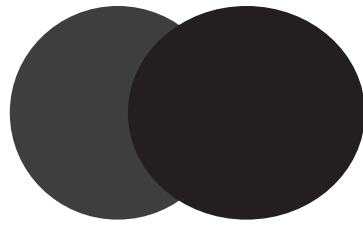


Fig. 10.2 Interposition

Aerial perspective: Relative colour of objects give us some clues to their distance. Due to the scattering of blue light in the atmosphere, creating ‘wall’ of blue light, distance objects appear more blue. Thus distant mountains appear blue. Contrast of objects also provide clues to their distance. When the scattering of light blurs the outlines of objects, the object is perceived as distant. Mountains are perceived to be closer when the atmosphere is clear.

Light and shade: Sometimes the highlights and shadows can also provide information about an object’s dimensions and depth (see Figure 10.3).

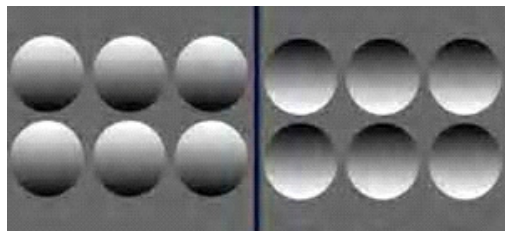


Fig. 10.3 Light and Shade

Binocular cues: Stereopsis is an important binocular cue to depth perception. In Stereoscopic vision the two eyes cooperate to yield the experience of solidity and distance. The experience depend upon the cooperation of the two eyes.

Stereopsis occurs because of the perception of depth which happens because of binocular retinal disparity. The head separates both the eyes and the left eye gives a different view than the right eye. The stereoscopic effect is because of the combination of these slightly different pictures in one view, alternating perception of the two images. This usually occurs when lines are presented to the two eyes differ in orientation, length or thickness. An example of binocular rivalry occurs when one eye is presented with a horizontal line and the other eye is presented with a vertical line. Binocular rivalry occurs at the intersection of the lines and some suppression also exists. This can be explained with Figure 10.4.

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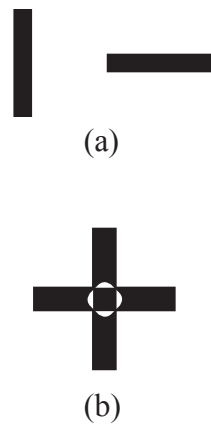


Fig. 10.4 Binocular Rivalry

10.3.3 Perception of Movement

People perceive motion, when an image moves across their line of vision and it produces a pattern of successive stimulation of the rods and cones. When you turn our heads to have a look around the room in which you are standing images move across the retina, but still the objects which are there in the room appear stationary to us. You infer from this that it is your head which is actually moving and not the room. Similarly it is observed that when you hold, our head steady and only move your eyes, you find that the objects which are kept in the room do not move.

Apparent motion

Real movement means physical stimulus is actually moving and you perceive it as moving. Though, it is also possible to perceive motion when the stimulus is not moving. This is called apparent motion. Some examples of apparent motion are autokinetic effect, stroboscopic motion or phi phenomena stroboscopic motion is actually a illusion. In this type of illusion when two separate stimuli are presented in succession they appear moving to us.

The most common demonstration of the phi phenomenon is seen when two illuminated spots of lights alternately go on and off you see a single spot of light moving. This can observed during Diwali lighting when in many lighting bulbs are attached together if the alternate light goes on and off we perceive that the light is moving.

This principle is also used in many movies. In reality, there is no physical motion, only a series of lights going on and off. Movies are a series of single frames presented in rapid succession. In the movies there is a series of frames each with a slightly different image. When they are rapidly projected on to the viewing screen, motion is seen.

Cartoon movies are also based on this principle. A series of pictures are drawn, and when they are presented very quickly then motion of the cartoon

characters is seen. Thus, in reality, there is no motion but when the cartoon pictures are shown in succession then it gives a perception of movement.

There are many other instances when movement is perceived. Many times it happens that when you are sitting in a train or bus, you suddenly realize that without any jerk you have suddenly started moving but to your surprise you realize that it is not you but the vehicle (train or bus) right next to you that is moving and it just felt as if you were moving. This is called induced motion.

We often observe that if we view a small very dim light in a completely dark room at a single spot the light will appear to move about randomly. This apparent movement of a stationary light is known as auto-kinetic movement.

Sometimes there is also Motion After Effects. For example If we see a waterfall, and keep on looking at the falling water for some time and then see any stationary object which is obviously not moving like a building the windows will appear to be moving.

The explanation of Motion After Effects has been given by many scientists. Our visual system has got many types of motion detectors which undergo spontaneous activity. We generally do not see motion when there is no motion because the spontaneous activity is in balance. When the real motion stopped, the spontaneous activity was no longer in balance. The adjustment and adaptation effect lasts for some time. The motion detection system again regains balance again and there is perception of no apparent movement.

10.3.4 Ecological Perspective on Perception

The ecological view of perception stands apart from all other theories of perception. That is so because it takes into consideration the role of real movement in perception. All other theories, including those which have been tested in laboratories do not consider movement when theorizing perception. This theory was formulated by James J. Gibson. In Gibson's theory, all elements like background, horizons and the surrounding objects play an important part in explaining perception.

Gibson originally formulated the theory during the Second World War. He was responsible for creating training films for fighter pilots. During the course of his work, he observed that there were optic flow patterns involved in all perceptions formed by the human mind. He observed that when a pilot is flying a plane towards a particular point in the distance, the entire visual environment of the pilot was moving and flowing over and around the pilot and only the target destination point of the pilot remains fixed or motionless. The visual information that the pilot gathers from the environment flowing around him is known as the optic array, which helps the pilot form a visual layout in his mind. This kind of perception is based on mere observation

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and does not require any information processing by the cognitive system of the perceiver.

Another important aspect of the theory was ‘resonance’. This means that from the panorama present to him, the individual selects and rejects the information that he wants to record and does not want to record, respectively. This selection is similar to the radio tuning into the desired frequency and ignoring all the rest. Similarly, individuals also tune into their environments naturally and automatically.

Gibson’s conclusion was that visual perception is usually completely accurate. He explained visual illusions as static, random and 2D. He felt that they were able to be illusions simply because there was no movement.

Psychophysics

This is a field of psychology which examines the connection between physical stimuli and the resulting sensations and perceptions quantitatively. Psychophysics is described as ‘the scientific study of the relation between stimulus and sensation’ or, ‘the analysis of perceptual processes by studying the effect on a subject’s experience or behaviour of systematically varying the properties of a stimulus along one or more physical dimensions’

This science has a number of practical applications. For instance, using the techniques of psychophysics, it can be explained why human beings are unable to perceive minor losses in signal quality when lossy compression is used to format audio and video signals. This is a very useful application in the field of digital signal processing.

Since the entire science of psychophysics is based on measurable quantities, physicists utilizing this science employ measurable external stimuli such as tones varying in intensity or lights varying in degree of luminance. Psychophysicists study all senses including vision, hearing, taste, touch and smell.

Check Your Progress

3. What is perceptual tendency?
4. Define illusion.

10.4 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. *Gestalt* is a German word which means form, shape or configuration.
2. The principle of *pragnanz* means that our perception organization will always be as good as the prevailing conditions allow. The principle plays an important role in motivation.

3. The tendency to perceive an object you are familiar with as having a constant size, shape and brightness despite the stimuli changes that occur is called perceptual constancy.
4. An illusion may be defined as a subjective perversion of the objective content of sense perception.

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10.5 SUMMARY

- Gestalt school of psychology developed as a movement against the theory of behaviourism and conditioning.
- Gestalt school, in its present form, has been developed by the continuous contribution of psychologists from time to time.
- Franz Brentano (1838–1917) developed Phenomenology and Act Psychology. He defined psychology as the science of physical phenomena, regarding phenomena as active rather than static acts of a person.
- The birth of Gestalt psychology can be traced from 1912 when Wertheimer published his classic papers on “Phenomena” (apparent movement).
- *Gestalt* is a German word which means form, shape or configuration and Gestalt psychologists have added the meanings organic whole and organization to it.
- A sensory system is a part of the nervous system which is responsible for processing sensory information.
- A sensory system consists of neural pathways, sensory receptors, and parts of the brain which are involved in sensory perception. The most commonly recognized sensory systems are for hearing, vision, somatic sensation (touch), olfaction (smell) and taste.
- The tendency to perceive an object you are familiar with as having a constant size, shape and brightness despite the stimuli changes that occur is called perceptual constancy.
- An illusion may be defined as a subjective perversion of the objective content of sense perception. We know that the subjective or inner factor is always highly important in perceiving and very often becomes predominant.
- Humans have two eyes, and each eye receive different images. Humans perceive depth by coordinating the images of our left and right eyes to perceive stereoscopic depth, which is important for the visual perception of three-dimensional space. Thus depth perception is actually considered to be the visual ability to perceive the world in three dimensions.

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10.6 KEY WORDS

- **Interoception:** Interoception is a lesser-known sense that helps you understand and feel what's going on inside your body.
- **Quantum Theory:** Quantum mechanics, including quantum field theory, is a fundamental theory in physics which describes nature at the smallest scales of energy levels of atoms and subatomic particles.
- **Isomorphism:** Isomorphism is the idea that perception and the underlying physiological representation are similar because of related Gestalt qualities.

10.7 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What is Gestalt approach?
2. What are the tenets of Gestalt psychology?
3. Write a short note on illusion.
4. What is psychophysics?

Long Answer Questions

1. Discuss perceptual tendency in detail.
2. What are the major causes of illusion? Discuss.
3. What is perception of depth? Explain.

10.8 FURTHER READINGS

- Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.
- Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.
- Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.
- Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.
- Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

BLOCK - IV

Perceptual Processes

APPROACHES IN PSYCHOLOGY

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UNIT 11 PERCEPTUAL PROCESSES

Structure

- 11.0 Introduction
- 11.1 Objectives
- 11.2 Approaches to the Study of Perception
 - 11.2.1 Gestalt
 - 11.2.2 Behaviouristic
 - 11.2.3 Physiological
- 11.3 Perceptual Organization – Gestalt, Figure and Background, Laws of Perceptual Organization
- 11.4 Perceptual Constancy
 - 11.4.1 Perception of Size
 - 11.4.2 Perception of Shape
 - 11.4.3 Perception of Brightness
 - 11.4.4 Depth Perception
- 11.5 Role of Motivation and Learning in Perception
- 11.6 Figural After Effect
- 11.7 Answers to Check Your Progress Questions
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- 11.9 Key Words
- 11.10 Self Assessment Questions and Exercises
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11.0 INTRODUCTION

Perception is the process through which the information from outside environment is selected, received, organized and interpreted to make it meaningful. This input of meaningful information results in decisions and actions. It is a result of a complex interaction of various senses such as feeling, seeing, hearing, thinking and comparing with known aspects of life in order to make some sense of the world around us. The quality or accuracy of a person's perception is an important factor in determining the quality of the decision and action. Perception has been explained by Ajit Singh as follows:

“Perception refers to interpretation of sensory data. In other words, sensation involves detecting the presence of a stimulus whereas perception involves understanding what the stimulus means. For example, when we see something, the visual stimulus is the light energy reflected from the external world and the eye becomes the sensor. This visual image of the external thing becomes perception when it is interpreted in the visual cortex of the brain. Thus, visual perception refers to interpreting the image of the external world projected on the retina of the eye and constructing a model of the three dimensional world.”

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Perception is primarily an individual process so that different people may perceive an identical situation differently. “All that glitters is not gold” and “things are not what they seem”, are all reflections of various perceptions about the same situation. People behave on the basis of what they perceive reality to be and not necessarily as what reality is.

The following two examples amply illustrate the difference between what reality is, and as is perceived by different individuals. The first example involves former US President Richard Nixon and one of his aides.

“The President was working alone, very late at night, in a hotel room while on a trip. He opened the door, beckoned to a waiting aide and ordered, “Get me Coffee.” The aide immediately responded to the directive. Most of the activities at the hotel including the kitchen, were not operating at such a late hour. Hotel personnel had to be called in and a fresh pot of coffee was brewed. All of these activities took some time and the President kept asking about “coffee” while waiting. Finally, a tray was made up with a carafe of coffee, cream, sugar and some sweet rolls and was rushed to the President’s suite. It was only at this point that the aide learned that the President did not want coffee to drink, but rather wanted to talk to an assistant whose name was Coffee.” The second example is quoted by an author, from his personal experience and it is given as follows:

“I was in a supermarket when a girl about eight years old came running around a corner. She looked back and screamed, “Stop! Stop! you are killing him. You are killing my father!” I dropped my things and hurried in the direction from which the girl had come. As I turned the corner, I was greeted by a grisly scene. A man was stretched out on the floor and another was on top of him. The man on the top must have been six feet six inches tall and must have weighed 300 pounds. He looked only half human. He had his victim by the throat and was beating his head against the floor. There was blood everywhere. I ran for the store manager.

By the time the manager and I returned to the scene, the police were just arriving. It took quite a while to straighten things out, but here are the facts that emerged. The man on the floor was a diabetic who had suffered an insulin reaction. As a result, he passed out and hit his head as he went down. This caused the cut (actually quite a minor one) that accounted for the “blood everywhere”. The “man on the top” had seen the diabetic man fall and was trying to prevent him from injuring himself further while unconscious. He also had been loosening the man’s collar.

If I had not returned, I would have sworn in court that I had seen a murder. This perhaps is understandable. But I will never probably recover from the shock I felt when I met the “murderer”. This is the man, you will recall that I had seen a few moments before, in broad daylight as a huge, vicious creature. The man was not a stranger. He was my neighbour. I had

seen him dozens of times before and knew him by name. He is a rather small man”.

These two examples illustrate rather dramatically, what an important role perception plays in our understanding of the world around us and our decisions based upon such perceptions. Both these examples bring to light three influences on the concept of perception about these and other incidents. These influences are:

- The characteristics of the perceiver.
- The characteristics of the perceived.
- The characteristics of the situation.

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11.1 OBJECTIVES

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

- Discuss the various approaches to the Study of Perception
- Understand the laws of perceptual organization
- Describe the law of perceptual constancy
- Learn about the role of motivation and learning in perception

11.2 APPROACHES TO THE STUDY OF PERCEPTION

The Functional Approach

This approach to perception is also known as the problem-solving approach. Many theorists propounded this theory. One of these theorists was Irvin Rock. Since many different theorists worked on this approach, there were many variations of the same theory. One such variation was called the cognitive approach or hypothesis testing. As per this theory, the human mind has the tendency to arrive at the most plausible solution to a given problem. In the given figure (Fig. 11.1), the mind will tend to locate a white triangle between the three incomplete circles.

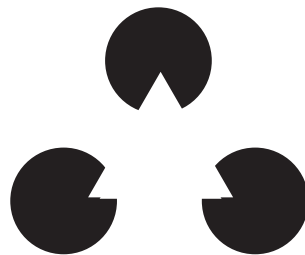


Fig. 11.1 The Triangle within the Circles

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This is a purely subjective deduction, because actually there are no outlines of the triangle or no defined boundary. This phenomenon is known as modal completion. Actually, due to the depth perception of the human eye and the tendency to arrive at the simplest solution, the mind tends to perceive that there are three complete circles and there is a triangle placed in the middle which is hiding some portion of each of the circles. The mind will also perceive that the triangle is placed closer to us than the circles.

The computational approach

When this approach was first published, it gained many followers, however, as new theories came up, this theory lost its popularity. The main proponent of this theory was David Marr who published his approach to perception in his book *Vision*, published in 1982. As per Marr's theory, an organism, say, a human being performs different levels of image analysis based on the representation he is presented with. So, this means that we have been given a representation of the world around us and we use it to derive the properties of the world which are valid and reliable. Generally, to achieve this derivation, we follow a set of guidelines, or 'algorithms'. The algorithm is nothing but the logic by which the representation is made. As per Marr, the human mind follows this step-by-step route:

- A basic outline is perceived, complete with edges and boundaries.
- On the basis of assumptions about limitations of the world, such as only rigid moving objects being visible, the observer's mind makes up a 3D model.
- The world is understood as a place outside of oneself, meaning that the world is perceived in object-centric terms, rather than viewer-centric terms.

The neurophysiological approach

As per this approach, the entire chain of events, including the input and output, and the physiological mechanism, must be known to fully explain perception. The basic premise of this approach is that the body's neural mechanisms form the basis of perceptions. This approach then goes on to study how or why these neural mechanisms affect perceptions.

Constructional view of perception

Constructional view of perception is actually a theory, also known as intelligent perception. It has two approaches:

1. *Top-down approach:* As per this approach, an individual 'uses sensory information and other sources of information to achieve cognitive understanding of a stimulus'. In other words, the individual breaks down the various information inputs into various parts and then understands each to form a whole.

2. *Bottom-up approach*: As per this approach, an individual first perceives the most basic parts of the information and pieces them together to form a grander whole.

This theory attempts to explore the relationship between intelligence and perception. As per this theory, the observer gathers information, forms perceptions and then finally unconsciously forms judgments. Information is gathered through the senses and assimilated using the higher order cognitive processes. When forming perceptions, the person unconsciously formulates hypotheses quickly in the mind to come to certain conclusions about the observed phenomena. Sometimes, in fact, when relying on visual perception, the person forms hypothesis without even realizing it consciously. Noted philosopher Immanuel Kant believed that our perception of the world is reciprocal in nature, which means that just like the world affects our perceptions; our perceptions also affect how we experience the world.

Here is an example of the formation of perception based on the constructivist theory. Suppose you are in a car going down a road you have never traveled before. Some distance away, you can see a white coloured board with the words S_OP written on it in red, at an intersection. One missing letter is not visible due to a plant blocking your vision. Now, even if you can't see the sign fully, you will be able to guess that it says STOP. How? Here, you have drawn on your past experience and made an educated inference. Your intelligence has helped you make out the sign using sensory perception and prior knowledge. Your mind is already familiar with the standard representation of a STOP sign — that it is written in red on a white background. Also, that STOP signs are generally placed at intersections. So, your intelligence puts these known facts together, combines it with the sensory knowledge of the words S_OP that you can see and constructs your perception.

11.2.1 Gestalt

The Gestalt psychologists, Kohler, Koffka and Wertheimer (1886–1941) proposed that the brain has the innate capacity for organizing perception. According to them, people naturally organize their perceptions according to certain patterns. The main principles of Gestalt psychology is that the whole is different from the sum of its parts, e.g., thousands of tiny dots (parts) make up an image (whole) in print or on computer screen. Similarly, when we watch a film, the frame moves a light source at a rapid pace, and we perceive the whole that is very different from the separate frames that are the film's part.

11.2.2 Behaviouristic

Behaviourism is different from most other approaches. It proposes that people and animals are controlled by their environment and that we all are shaped

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by what we have learned from the environment. It is concerned with how environmental factors i.e., stimuli affect observable behaviour i.e. response.

There are two main processes which have been proposed by behaviourist theory, whereby people learn from their environment: namely classical conditioning and operant conditioning. Classical conditioning involves learning by association, and operant conditioning involves learning from the consequences of behaviour.

11.2.3 Physiological

We have already discussed the physiological approach to perception in the previous unit. To recapitulate, it means examining perception by determining how an individual's perception is related to physiological processes that are occurring within that individual. It focuses on determining the relationship between stimuli and physiological responding and between physiological responding and perception.

Check Your Progress

1. What are the main principles of Gestalt psychology?
2. What are the two main processes proposed by Behaviorist Theory?

11.3 PERCEPTUAL ORGANIZATION – GESTALT, FIGURE AND BACKGROUND, LAWS OF PERCEPTUAL ORGANIZATION

Gestalt psychology was founded by German psychologists Max Wertheimer, Wolfgang Kohler, and Kurt Koffka. The word *Gestalt* in German means organized structure it focuses on how people interpret the world. Gestalt psychologists formed a set of principles to explain perceptual organization. These principles are often referred to as the 'laws of perceptual organization.'

Law of Wholes

Gestalt psychology attempts to understand psychological phenomena by viewing them as organised and structured wholes rather than the sum of their constituent parts the law of wholes means that the whole is noticed first in perception, The essential point of Gestalt is that in perception the whole is different from the sum of its parts as shown in Figure 11.2.



Fig. 11.2 Law of Wholes

Figure and ground

Gestalt theorists stated the importance of figure ground relations. Meaning humans tend to organize stimuli into a central or foreground figure and a background. In vision this central figure is usually on top or in front of what our perception perceives as the background. It has a distinct shape than the background.

The characteristic organization of perception into a figure that ‘stands out’ against an undifferentiated background can be seen in Figure 11.3. You can either see the figure as a black vase standing in front of a white ground, or you can see two white faces, looking at each other, in front of a black ground.

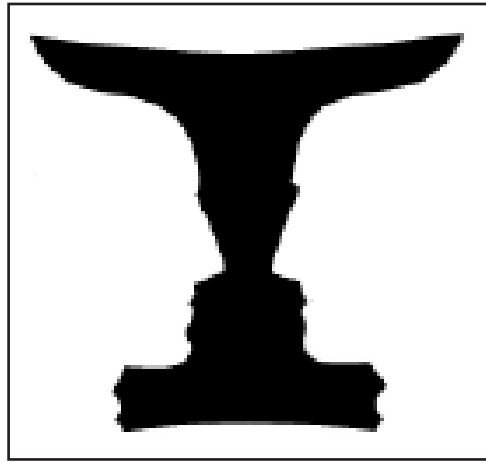


Fig. 11.3 Characteristics Organization of Perception in Figure



Fig. 11.4 Reversible Figure Ground Effect

In Figure 11.4 reversible figure ground effect can be seen, either a young attractive woman can be perceived or an old woman can be visualized.

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Law of Similarity

Two things or parts similar to one another in colour, lightness, texture, shape, or any other quality have a tendency to become organized. Similar parts are organized together and are perceived as wholes. In Figure 11.5 it is a tendency to perceive columns than rows. Columns of star which are similar are perceived as whole and columns of circle which are similar are perceived as whole.



Fig. 11.5 Law of Similarity

Law of proximity

‘Law of proximity’ states that there is a tendency to perceive objects which are near to each other in a group. In the Figure 11.6 the squares on the left are grouped together as vertical columns. and on the right appears to be grouped together as horizontal rows.

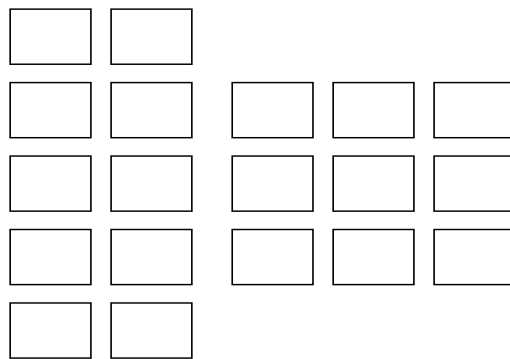


Fig. 11.6 Law of Proximity

Law of continuity

According to the law of continuity, points that are connected by straight or curving lines are seen in a way that follows the smoothest path. Rather than seeing separate lines and angles, lines are seen as belonging together in Figure 11.7.

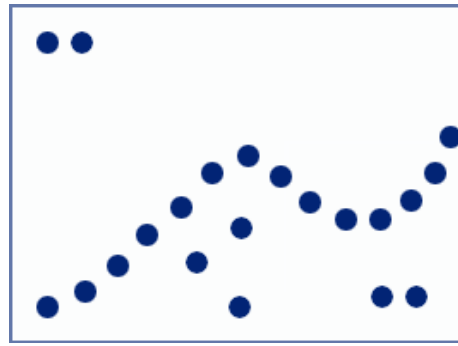


Fig. 11.7 Law of Continuity

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Law of closure

According to the law of closure, humans prefer complete forms to incomplete forms. Thus, in Figure 11.8, the perception is to close the gaps and view the picture as complete triangle and circle. So it can be concluded that there is a tendency to view complete objects than the incomplete forms.

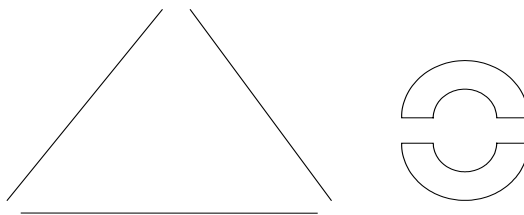


Fig. 11.8 Law of Closure

Law of simplicity

The law of simplicity states that people prefer the simplest, most stable of possible organizations. For example, Figure 11.9 depicts three circles, they can be perceived as three overlapping disks; as one whole disk and two partial disks. The law of simplicity states that you will see the illustration as three overlapping disks, because that Law of Common Fate—Elements with the same moving direction are perceived as a collective or unit is the simplest interpretation.

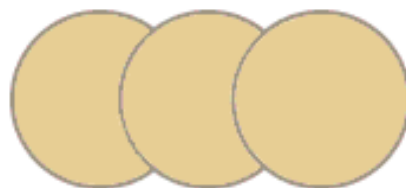


Fig. 11.9 Law of Simplicity

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Check Your Progress

3. Who founded Gestalt psychology?
4. What does the law of simplicity state?

11.4 PERCEPTUAL CONSTANCY

Perceptual constancy is also called object constancy, or constancy phenomenon. The tendency of animals and humans to see familiar objects as having standard location, shape, size and colour irrespective of changes in the angle of perspective, distance, or lighting. The familiarity with the object tends to conform to the object as it is or is assumed to be, rather than to the actual stimulus. The ability to identify objects under various conditions, which seem to be “taken into account” during a process of mental reconstitution of the known image is known as perceptual constancy. Perceptual constancy is reduced by unfamiliarity with the object and decreasing number of environmental cues that aid in identification of the object.

11.4.1 Perception of Size

According to the law of the visual angle, an object must become smaller and smaller as it recedes from the eye and that these decreases in size must be proportional to the distance. Though the object remains constant in physical size the retinal image of it must continually decrease with distance. It is observed that perceived size decrease much less rapidly than would be predicted by the law of visual angle. The failure of perceived size to decrease in proportion to the distance is known as size constancy.

11.4.2 Perception of Shape

“Detection of a planar object tilted in three-dimensional space may indicate that the shape is seen as an object separate from the background” (Slater & Morison, 1985). If this is the case then the edges are not only detected but also classified as object boundaries. In such a situation, one may get crucial information from depth discontinuities.

11.4.3 Perception of Brightness

The brightness of any object is dependent on the light reflected from the object and its background. The brightness of the object relative to other objects appears the same in bright light or dark.

The term, ‘brightness’ refers to the intensity of light sources. The intensity can be measured with a light meter. Brightness cannot be so easily measured. The brightness of any light source depends on how adaptable our eye is towards the light and dark objects and how wide open the pupil is.

The human eye is not very capable of judging absolute intensity. Brightness of an object is always seen in relation to the brightness of the illumination and other objects which are present in the visual field.

Surfaces and objects reflect light. Surfaces have a quality referred to as “lightness.” The objects are perceived as light or dark on a gray scale on the basis of this quality. This has little to do with how much light is actually reflected from the surface. For example, a black snake looks black in a dark room lit by a candle, but it also looks black in full sunlight.

The sensation of lightness of a surface does not appear to be changing with the illumination at all. However, it does seem to change with the nature of background or adjacent surfaces. The visual system compares the light coming from different surfaces. The sensation of lightness arises from the ratio of light which reflected from different surfaces. This makes the sensation of lightness relatively unaffected by the total light intensity or even geometry striking the scene. The lightness of any object is an outcome of how much light it reflects divided by the average amount of light which is reflected by the objects around it.

The human eye possesses a property which is known as “lightness constancy”. A human being can accurately assess the lightness of objects over a wide range of different illumination conditions. This is done by comparing local surfaces within a scene. We tend to respond to the ratio of light reflected from a given object to the average illumination of all the objects in the scene. The ability of the eye to do this depends on the way the retina processes information. Uniform lighting causes very little response in our retinal ganglion cells. Due to its center-surround organization, each retinal ganglion cell tends to respond to the ratio of light at different locations.

11.4.4 Depth Perception

Depth perception: The ability to see the world in three dimensions is called depth perception. The problem emerge from the fact that how the image of three dimensional world is projected on the two dimensional retina. The retina directly reflects height and width, but depth information is lost and reconstructed on the brain of depth cues, different kind of visual information that logically provide information about some object’s depth. There are various cues for perceiving depth in the world, some are as follows:

- **Monocular Cues:** It is known as a pictorial depth cue because they involve the type of depth detailing common to photographs and paintings. Even artists use these cues in their paintings. Their cues are as follows:
 - a. **Aerial perspective:** Mountains in the distance often look fuzzy and a building in the distance looks more blurry than those that are close. However, the further away an object is, the hazier it will appear. This is called aerial perspective.

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- b. Linear perceptive:** When parallel lines appear to be converging at a distance, it is called linear perspective. The converging line means a great distance away from where they start.
- c. Relative size:** When objects that are expected to be of a particular size seem smaller, they are perceived to be farther away than they actually are. For example, while driving, the vehicles coming behind seem smaller and farther than they actually are.
- d. Light and shadow:** The effect of light falling from somewhere is also used for detailing. Usually, the light in question is the sunlight and is obviously appearing from above, and from an object larger than all other objects on the earth. This effect is also created using shadows, which indicate where the light is coming from, without having to show the actual source of light.
- e. Interposition:** If one object seems to be blocking another, people assume that the blocked object is behind the first one and therefore farther away. This is also known as overlap.
- f. Texture gradient:** If the texture (grainy or rough) is visible, the object is perceived to be closer and if the texture seems smooth, the object is perceived to be lying at a distance. This technique is also used in paintings and picture. Close photographs of scaly animals like lizards show the details of their skin texture and the photo seems to be captured from a very small distance from the animal.
- g. Motion parallax:** The discrepancy in motion of near-far objects is called motion parallax.
- h. Accommodation:** Accommodation makes use of something that happens inside the eye. The brain can use this information about accommodation as a cue for distance. Accommodation is also called muscular cue.

Check Your Progress

5. Define perceptual constancy.
6. What is depth perception?

11.5 ROLE OF MOTIVATION AND LEARNING IN PERCEPTION

The internal factors relate to the perceiver and include such factors as learning and motivation. These factors are explained as follows:

Learning and Perception

Learning is an important factor in developing perceptual sets. A perceptual set is basically what a person expects from the stimuli on the basis of his learning and experience relative to same or similar stimuli. This is also known as cognitive awareness by which the mind organizes information and forms images and compares them with previous exposures to a similar stimuli. For example, read the phrase in the triangle below in a routine manner:

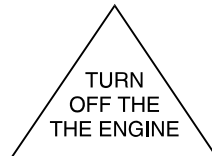


Fig. 11.10

Because of the familiarity with the phrase, a person is apt to read “Turn off the engine” and it will take some time for the reader to realize that this phrase is different than expected, in that it contains the word “THE” twice. This expectation plays an important role in cognitive explanation of behaviour. This view simply states that people initially see what they expect to see. Another example of cognitive awareness is the following illustration.



Fig. 11.11 Ambiguous picture of a young woman and an old woman

What do you see in the figure above? Do you see an attractive and wealthy young woman or do you see an ugly, poor and old woman? Obviously, two completely distinct women can be perceived from the given illustration. The difference between the perception of the young woman or the old woman would depend upon the cognitive awareness of the person regarding his prior exposure to the young woman or the old woman. For example, if a person is shown the illustration of a young woman that is clear and unambiguous, as shown below, and then he is exposed to the above ambiguous illustration,

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then such a person will invariably perceive the illustration to be of a young woman.

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Fig. 11.12 Young woman

However, if the person looking at the ambiguous picture was previously exposed to the following picture of an old woman, then the viewer of the ambiguous picture will report seeing an old woman, because of his cognitive comparison with the previous exposure.



Fig. 11.13 Old woman

Some of the other examples and illustrations that reflect upon our cognitive awareness are shown below. Our perceptions and interpretations of such illustrations would depend upon our previous exposures to such situations.

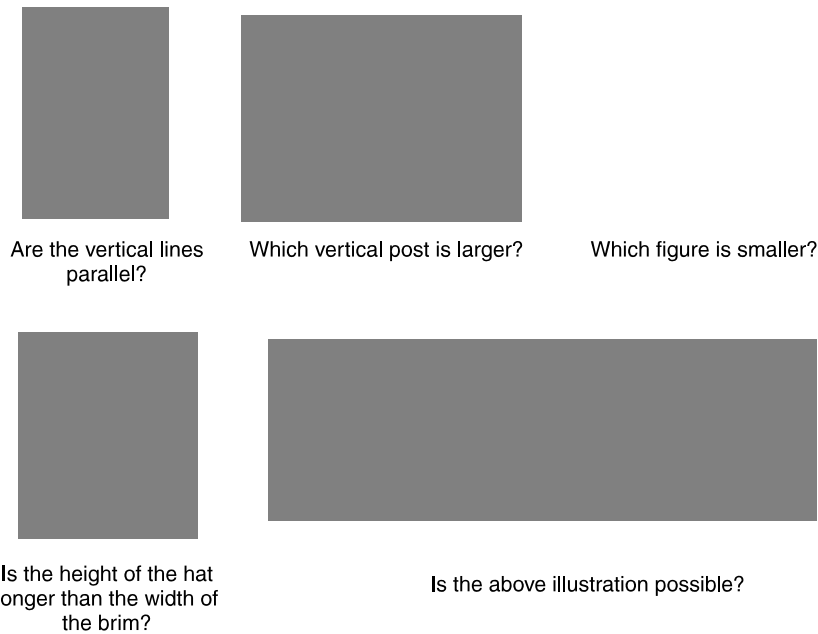


Fig. 11.14

In an organizational setting, some employees learn to perceive the environment around them the same way as their previous exposure to similar situations. According to John Swanda, the following statement was distributed to several managers in the same organization for their interpretation.

“I cannot recommend this young man too highly”. Although this statement is ambiguous and does not have a single clear interpretation, all the managers interpreted it to be a positive recommendation, simply because they all had learned to perceive the statement in a positive way.

Motivation and Perception

Motivation also plays an important role in influencing the process of perception. A hungry person would be very sensitive to sight or smell of food than a non-hungry person. Similarly, because of the traditional American culture, any mention of sex or a sexually explicit stimulus would be an instant attention getter. In some tribal societies, nudity may not get any attention at all. Another example would be of a person who has a strong need for affiliation. An employee with such a need would look for situations in which he can be with a lot of people. For example, when such an employee walks into the lunch room, he may go to the table where several of his co-workers are sitting, rather than a table that is empty. Similarly, people who are motivated by a need for power will be more attentive to such relative environment variables that enhance power.

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11.6 FIGURAL AFTER EFFECT

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Making errors in perceptual judgment are referred to as perceptual distortions. We try to interpret things around us on the basis of our interests, background, experience and attitudes. Such a selective perception occurs because we actually see what we want to see. These perceptual distortions may be because of stereotyping, projection, primacy effect, halo effect, expectancy effects, recency effects, perceptual defence and attribution error.

Perceptual errors

- Stereotyping
- Projection
- Primacy Effect
- Halo Effect
- Perceptual Defense
- Expectancy Effect and Self fulfilling Prophecy
- Recency Effect
- Fundamental Attribution Error
- Extrasensory perception

1. Stereotyping

It refers to judging people on the basis of the characteristics of the group to which they belong. Stereotyping influences the perception and judging people.

Some common examples of stereotyping are females have less capability, old people cannot learn new skills; they are less motivated and less committed towards their job.

Sometimes people are singled out on the basis of their religion or colour of their skin. This judgment is based on a stereotype formed by people that all dark skinned people are terrorists. Stereotypes are widespread and are used as generalizations. Though, these generalizations may not always be true for all situations. So one should always evaluate these generalizations based on stereotypes before coming to any conclusion.

2. Projection

Projection means assigning one's personal attributes to another individual. The people project their own needs, feelings, values and attitudes into their judgement of others.

Projection occurs at interpreting stage of perception. Honest people think that others will also be honest in their dealings. Dishonest people see

dishonesty in others also. Thus it can be concluded that attributing one's own attributes to others could often distort perception made about others. Because of this distortion people perceive others according to what they themselves are rather than what the person being observed is really like. The best method to control this tendency of projection is self awareness and empathy. Empathy means being able to put yourself in someone else's shoes, to recognise the feeling of others.

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3. Primacy Effect

Primacy effect is also known as the effect of first impression. It is believed that the information we get first is weighted more heavily because it is assumed to be more important. The first impression formed is very difficult to change and lasts longer unless it is greatly contradicted by information received later. The first impression formed may not be always correct and that is why it can cause errors in perception.

4. Halo Effect

When an individual is perceived and a general impression is formed on the basis of a single characteristic then it is referred to as halo effect. For example on the basis of characteristics like sociability, intelligence, appearance a general impression about the person is formed. Attractive people are perceived to be more intelligent. They are given higher positions and are paid better than the unattractive people. This becomes an error in perception.

5. Perceptual Defense

It is the tendency of people to protect themselves from those ideas which are threatening to them. It is a common fact that people try to perceive only those things that are satisfying and pleasant but do not want to perceive those things that are unsatisfying and unpleasant. Such people have a perceptual defense against those events and things that are disturbing to them.

6. Expectancy Effect and Self Fulfilling Prophecy

Expectancy effects refers to the extent to which the prior expectations bias perceptions of events, objects and people. One important aspect of expectancy effect is the self fulfilling prophecy. This aspect of self fulfilling prophecy is also called as pygmalion effect. Self fulfilling prophecy also called as Pygmalion effect occurs when our expectations about another person causes that person to act in a way that is consistent with those expectations (see Figure 11.15).

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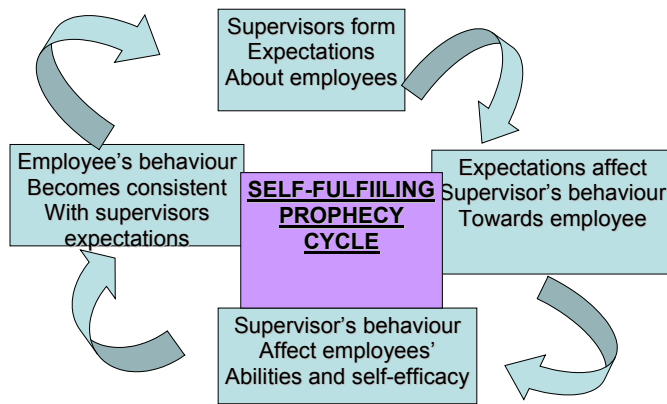


Fig. 11.15 Self Fulfilling Prophecy Cycle

7. Recency Effect

It is generally believed that if there is a time lag between the first piece of information and the next then the last piece of information will carry more weight. This is referred to as the recency effect. The recency effect causes serious errors in perception.

8. Fundamental Attribution error

Attribution theory explains the ways in which people explain things. Attribution refers to the way people try to understand the behaviour of others. It tries to explain the ways in which we judge people differently, depending upon the meaning we attribute to a given behaviour.

According to the attribution theory given by Kelly we attempt to determine whether the behaviour was internally caused or externally caused. Internally caused behaviour is under the personal control of the person. Externally caused behaviour refers to the situation which forced a person to behave. Let us discuss this theory with an example. If a student reports late to school. The teacher might attribute his lateness to his getting up till late night and then not been able to get up in the morning. This is an internal attribution. But the teacher may also attribute his arriving late to foggy weather or heavy rain, then it is an external attribution .

This determination depends upon three factors , distinctiveness, consensus and consistency. For example:

- (i) **Consensus:** If everyone who faces a similar situation responds in the same way it is concluded that behaviour shows consensus. For example if all students in the school report late then the consensus is high. Then the teacher will give an external attribution to the student's behaviour, but if other students were on time for the school despite heavy rain then the teacher will attribute the lateness to an internal cause.

(ii) Distinctiveness: Distinctiveness refers to whether an individual displays different behaviours in different situations. If the student is always late for all occasions then the cause of this behaviour is internal but if the behaviour is unusual then it is external attribution.

(iii) Consistency: Consistency means whether the individual responds the same way over time. If the behaviour is consistent then the behaviour is mostly attributed to internal causes.

The fundamental attribution error in perception is when we make judgments about the behaviour of other people we tend to underestimate the influence external actors and overestimate the influence of internal or personal factors.

9. Extrasensory perception

The topic of extrasensory perception is controversial because there is no sense organ stimulation in this type of perception. This type of perception is not considered to be scientific nature. The psychologists are skeptical about the reliability of this process because there is no reliable method to demonstrate this process. There can be virtually no replicability.

Extrasensory perception includes telepathy, which is the transference of thought from one person to another. We often find that we have telepathy. Clairvoyance is another type of extra sensory perception in which those objects or events are perceived which are not influencing the sense organs for example some people state predict the number of playing cards in a sealed envelope.

Check Your Progress

7. What is a perceptual set?
8. Define stereotyping.
9. What is halo effect?

11.7 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The main principles of Gestalt psychology is that the whole is different from the sum of its parts, e.g., thousands of tiny dots (parts) make up an image (whole) in print or on computer screen.
2. There are two main processes which have been proposed by Behaviourist Theory, whereby people learn from their environment: namely classical conditioning and operant conditioning.

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3. Gestalt psychology was founded by German psychologists Max Wertheimer, Wolfgang Kohler, and Kurt Koffka.
4. The law of simplicity states that people prefer the simplest, most stable of possible organizations.
5. The tendency of animals and humans to see familiar objects as having standard location, shape, size and colour irrespective of changes in the angle of perspective, distance, or lighting is called perceptual constancy.
6. The ability to see the world in three dimensions is called depth perception.
7. A perceptual set is basically what a person expects from the stimuli on the basis of his learning and experience relative to same or similar stimuli.
8. Stereotyping refers to judging people on the basis of the characteristics of the group to which they belong. Stereotyping influences the perception and judging people.
9. When an individual is perceived and a general impression is formed on the basis of a single characteristic then it is referred to as halo effect.

11.8 SUMMARY

- The functional approach to perception is also known as the problem-solving approach. Many theorists propounded this theory.
- The computational approach was first published, it gained many followers, however, as new theories came up, this theory lost its popularity. The main proponent of this theory was David Marr who published his approach to perception in his book *Vision*, published in 1982.
- The Gestalt psychologists, Kohler, Koffka and Wertheimer (1886–1941) proposed that the brain has the innate capacity for organizing perception. According to them, people naturally organize their perceptions according to certain patterns
- Gestalt psychology was founded by German psychologists Max Wertheimer, Wolfgang Kohler, and Kurt Koffka.
- According to the law of continuity, points that are connected by straight or curving lines are seen in a way that follows the smoothest path.
- According to the law of closure, humans prefer complete forms to incomplete forms.
- The law of simplicity states that people prefer the simplest, most stable of possible organizations.
- Perceptual constancy is also called object constancy, or constancy phenomenon.

- The tendency of animals and humans to see familiar objects as having standard location, shape, size and colour irrespective of changes in the angle of perspective, distance, or lighting.
- According to the law of the visual angle, an object must become smaller and smaller as it recedes from the eye and that these decreases in size must be proportional to the distance.
- The brightness of any object is dependent on the light reflected from the object and its background. The brightness of the object relative to other objects appears the same in bright light or dark.
- The ability to see the world in three dimensions is called depth perception. The problem emerge from the fact that how the image of three dimensional world is projected on the two dimensional retina.
- A perceptual set is basically what a person expects from the stimuli on the basis of his learning and experience relative to same or similar stimuli. This is also known as cognitive awareness by which the mind organizes information and forms images and compares them with previous exposures to a similar stimuli.
- Motivation also plays an important role in influencing the process of perception. A hungry person would be very sensitive to sight or smell of food than a non-hungry person.

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11.9 KEY WORDS

- **Hypothesis:** A supposition or proposed explanation made on the basis of limited evidence as a starting point for further investigation is called hypothesis.
- **Intensity:** Intensity refers to light and sound waves, and is defined as the amount of energy in a light or sound wave. This exact amount is determined by amplitude (the size or height) of the sound or light wave.

11.10 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Write a short note on the law of proximity.
2. What is the law of visual angle?
3. What are monocular cues?
4. What are the common perceptual errors?

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Long Answer Questions

1. What are the various approaches to the study of perception? Discuss.
2. Analyse the role of motivation and learning in perception.
3. 'Perceptual constancy is reduced by unfamiliarity with the object.' Comment on the statement with reference to the text.

11.11 FURTHER READINGS

- Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.
- Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.
- Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.
- Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.
- Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

UNIT 12 PHENOMENOLOGICAL THEORY AND COGNITIVE THEORY

NOTES

Structure

- 12.0 Introduction
- 12.1 Objectives
- 12.2 Kelly's Personal Construct Theory
- 12.3 Rogers' Self Theory
- 12.4 Lewin's Field Theory
- 12.5 Festinger's Cognitive Dissonance Theory
- 12.6 Mischel's Cognitive-Behavioural Theory
- 12.7 Answers to Check Your Progress Questions
- 12.8 Summary
- 12.9 Key Words
- 12.10 Self Assessment Questions and Exercises
- 12.11 Further Readings

12.0 INTRODUCTION

Phenomenological perspective can be traced to Wilhelm Wundt who is considered as the father of psychology and who conducted psychological research in the 1870s. There are a number of strands to the phenomenological perspective.

12.1 OBJECTIVES

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

- Understand Kelly's Personal Construct Theory
- Discuss Roger's Self Theory
- Learn about Lewin's Field Theory
- Describe Festinger's Cognitive Dissonance Theory and Mischel's Cognitive-Behavioural Theory

12.2 KELLY'S PERSONAL CONSTRUCT THEORY

According to this theory, people develop personal perceptions about the world. They, then use these perceptions or constructs to find meaning to their experiences and observations. We all live in the same world but have different

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sets of experiences. For example, you and your friend met a stranger in a library. Your friend was willing to talk to him while you were reluctant to do so. While your friend saw the stranger as a prospective friend, you did not think so. This shows the way the same event can be interpreted differently by two individuals. As per psychologist, George Kelly, personality consists of various mental constructs through which each person views reality. Every person is like a scientist who wants to understand the world around her, make predictions about what will happen next, and create theories to explain events.

12.3 ROGERS' SELF THEORY

Rogers' theory emphasises on the concept of self. The concept of self is the perceptions, ideas, values a person has about himself. This self concept influences his behaviour and how he perceives the world.

According to Rogers, self concept is 'the organized consistent conceptual Gestalt composed of perceptions of the characteristics of 'I' or 'me' and the perceptions of the relationships of the 'I' or 'me' to others and to various aspects of life, together with the values attached to these perceptions. It is Gestalt's theory, which is available to awareness though not necessarily in awareness. It is fluid and changing, a process, but at any given moment it is a specific entity.'

People try to analyze all the situations they encounter in relation to the self concept. A person tries to behave in a manner which matches his self concept, and if there is any discrepancy then it becomes threatening for him and he does not want to bring this to his conscious mind. This is termed as repression by Freud.

According to Rogers, a person refers to 'ideal self' which any individual would like to be. Ideal self is not something which is real, it is something that is always out of our reach. Ideal self is actually a standard which cannot be generally met.

The person whose adjustment is good will not have much difference between the concept of self and ideal self, but if there is a significant difference then it would lead to tension and maladjustment. This state of difference between self concept and ideal self is called as incongruity. This incongruity leads to anxiety which results in the development of a neurotic personality.

The people modify their behaviour to align their concept of self with the concept of ideal self. Roger formulated nineteen propositions to explain his theory. These nineteen propositions are discussed as follows:

Rogers' Nineteen Propositions

1. All individuals (organisms) exist in a continually changing world of experience (phenomenal field) of which they are the centre.

2. The organism reacts to the field as it is experienced and perceived. This perceptual field is 'reality' for the individual.
3. The organism reacts as an organized whole to this phenomenal field.
4. A portion of the total perceptual field gradually becomes differentiated as the self.
5. As a result of interaction with the environment, and particularly as a result of evaluational interaction with others, the structure of the self is formed - an organized, fluid but consistent conceptual pattern of perceptions of characteristics and relationships of the 'I' or the 'me', together with values attached to these concepts.
6. The organism has one basic tendency and striving - to actualize, maintain and enhance the experiencing organism.
7. The best vantage point for understanding behaviour is from the internal frame of reference of the individual.
8. Behaviour is basically the goal directed attempt of the organism to satisfy its needs as experienced, in the field as perceived.
9. Emotion accompanies, and in general facilitates, such goal directed behaviour, the kind of emotion being related to the perceived significance of the behaviour for the maintenance and enhancement of the organism.
10. Values experienced directly by the organism, and in some instances are values interjected or taken over from others, but perceived in distorted fashion, as if they had been experienced directly.
11. As experiences occur in the life of the individual, they are either, (i) symbolized, perceived and organized into some relation to the self, (ii) ignored because there is no perceived relationship to the self structure, (iii) denied symbolization or given distorted symbolization because the experience is inconsistent with the structure of the self.
12. Most of the ways of behaving that are adopted by the organism are those that are consistent with the concept of self.
13. In some instances, behaviour may be brought about by organic experiences and needs which have not been symbolized. Such behaviour may be inconsistent with the structure of the self but in such instances the behaviour is not "owned" by the individual.
14. Psychological adjustment exists when the concept of self is such that all the sensory and visceral experiences of the organism are, or may be, assimilated on a symbolic level into a consistent relationship with the concept of self.
15. Psychological maladjustment exists when the organism denies awareness of significant sensory and visceral experiences, which

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consequently are not symbolized and organized into the gestalt of the self structure. When this situation exists, there is a basic or potential psychological tension.

16. Any experience which is inconsistent with the organization of the structure of the self may be perceived as a threat, and the more of these perceptions there are, the more rigidly the self structure is organized to maintain itself.
17. Under certain conditions, involving primarily complete absence of threat to the self structure, experiences which are inconsistent with it may be perceived and examined, and the structure of self revised to assimilate and include such experiences.
18. When the individual perceives and accepts into one consistent and integrated system all his sensory and visceral experiences, then he is necessarily more understanding of others and is more accepting of others as separate individuals.
19. As the individual perceives and accepts into his self-structure more of his organic experiences, he finds that he is replacing his present value system-based extensively on introjections which have been distortedly symbolized - with a continuing organismic valuing process.

Self-actualization

The actualizing tendency is the main driving force in Rogers theory. According to Rogers, self actualization is a person's motivation to achieve his full potential. It is their desire to achieve the best in their life. The neurotic personalities have to take the help of therapy to reduce their incongruence.

Therapy

The contribution of Carl Rogers to therapy is well recognized. His therapy was called as non-directive, as he felt that the therapist should not lead the client, but the client should direct the progress of the therapy and thus he changed the name of non-directive therapy to client-centred therapy. Rogers believed that the client should help therapist find ways of improving, and determine the conclusion of therapy.

Rogers asserted that independence (autonomy, freedom with responsibility) should be given to the client and he should not be fully dependent on the therapist. Rogers found that the therapist should have some special qualities in order to be successful in the therapy he provides to the client. He should be genuine and honest with the client. He should also show empathy –that is he must have an ability to understand the feelings and emotions of the client. The therapist must respect and show unconditional acceptance.

Check Your Progress

1. What is the concept of self?
2. What is self-actualization?

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12.4 LEWIN'S FIELD THEORY

Kurt Lewin (1890–1947), unlike Pavlov, Skinner and gestaltian psychologists, conducted experiments on the study of behaviour of children. He utilized an elaborate experimental set-up with a view to control a child's total environment during the course of the investigation for getting detailed information. Lewin emphasized the study of behaviour as a function of the total physical and social situation. Lewin held that psychological laws should not be formulated solely on the basis of statistical averages. Rather, the individual case was equally important, according to him. Even if all general psychological laws were known, there was still a need to understand the specific individual and 'total situation' in which he existed, before making any prediction about his behaviour. Thus Lewin favoured an '*idiographic* psychology' in which the focus was on the *individual*, as opposed to '*nomothetic* psychology', where the emphasis was on *statistical average*. Lewin described his viewpoint in the following formula:

$$B = f(PE)$$

where B represents behaviour, f is a function, P is the person, and E is the total environmental situation.

Lewin explained an individual's behaviour on the basis of his life-space. An individual's life-space, according to him, depends on his psychological force. It includes the person; his drives, tensions, thoughts and his environment, which consists of perceived objects and events. Lewin represented his theory through a diagram in which an individual is in the centre. He moves through his life-space which consists of the totality of facts that determine his behaviour at a given time. A life-space contains the individual himself, the goals he is seeking (positive valence) or avoiding (negative valence), the barriers that restrict the individual's movements and the path he must follow to reach his goal. Desire creates tensions in the individual and tensions come to a balancing state and the person acts. After the goal has been achieved, the organism (individual) returns to a state of repose until a new desire activates him.

In Lewin's theory, threat, goal and barrier are the main factors. An individual who has to achieve some goal has to cross a barrier. The barrier may be psychological or physical. Because of the changes in the barrier in the life-space of an individual, continuous reconstruction takes place.

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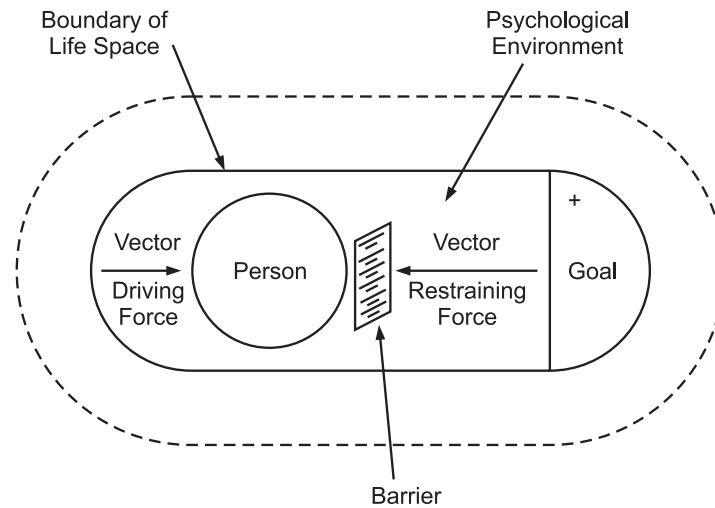


Fig 12.1 Lewin's Theory of Learning

Lewin's theory is called field theory, because to a psychologist, *field* means total psychological world in which a person lives at a certain time. It includes matters and events of past, present and future, concrete and abstract, actual and imaginary—all interpreted as simultaneous aspects of a situation. Lewin stated that each person exists within a field of forces, called his *life-space*, to which the individual is responding or reacting.

Lewin's theory regarded learning as a relativistic process by which a learner develops new insight or changes old ones. According to the theory, learning is not a mechanistic process of connecting stimuli and responses within a biological organism. Field psychology explains the development of insight as a change in cognitive structure of life-space.

Lewin's theory may be explained as under: Suppose a person P is moving towards a goal of getting social recognition. But to achieve the goal, he has to apologize, which in turn acts as the barrier coming in his way. The barrier may be physical or psychological forces, preventing him from reaching the goal, as explained in the Fig. 12.1. These forces organize themselves into a pattern which determines his future behaviour.

Lewin classified learning into the following categories:

- (i) Learning is a change in cognitive structure.
- (ii) Learning is a change in motivation, i.e., in valences and values.
- (iii) Learning is acquisition of skills.
- (iv) Learning is a change in group belonging.
- (v) Learning of all types involves change in perception.
- (vi) Changes in cognitive structure are caused by the forces in the psychological field—needs, aspirations and valences. The level of aspiration depends upon the potentialities of an individual and on the

influences of the group to which he belongs. Too higher or lower level of aspiration discourages learning.

Main Concepts of Lewin's Field Theory

Lewin's theory rests on concepts derived from *topology*—a branch of higher mathematics that deals with transformation in space; from *vector analysis*—or the mathematics of directed lines; and from the sciences of chemistry and physics with concepts as *valence, equilibrium and field force*. Lewin's most important publication was *Principles of Topological Psychology* (1936).

The main concepts used in Lewin's field theory are as follows:

- 1. Topology:** It is also called topological. Two basic concepts which topological space denotes are: (i) connectedness, and (ii) part-whole relationships. Topological concepts are used to represent the structure of life-space in such a way as to define the range of possible perceptions and actions. This is accomplished by showing the arrangements of the functional parts of life-space. The parts are shown as various regions and their boundaries. When an individual structures his life-space, he divides it into regions.
- 2. Vector:** The term vector represents a force which influences a movement towards a goal or away from it. If there is only one vector (force), there is a movement in the direction of the vector. However, if there are two or more vectors acting simultaneously in different directions, the movement is in the direction of the resultant force.
- 3. Life-Space:** It is also called the psychological field. The psychological field is the space in which the person moves psychologically. It contains the whole of one's psychological reality—one's self and what one thinks of or what one gains from his physical and social environment.
- 4. The Person in Life-Space:** The person is often represented as a point moving about in his life-space, affected by pulls and pushes on him, circumventing barriers in his locomotion in his own life-space.
- 5. Valence:** When a person is attracted by an object, that object is said to have a positive valence. When a person is repelled by an object, it is said to have a negative valence. The person tends to move towards a region in life-space that has positive valence but tends to move away from a region in life-space that has negative valence. As life-space may contain regions with several valences active at a time, which in turn give rise to conflicts, especially when the opposing forces are approximately in balance. Lewin specified three chief kinds of conflicts:
 - (a) *Two Positive Valence:* When a child has to choose between going to picnic and playing with his friends.

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(b) *A Simultaneous Positive and Negative Valence:* When a child is offered a reward for the school task which he does not wish to perform.

(c) *Two Negative Valence:* When a child is threatened with punishment for not doing a task which he does not wish to perform.

6. Distance and Direction: When there is a close correspondence between life-space and physical space, physical distances and directions may be used for experimental purposes as approximations of distances and directions in life space.

7. Behaviour: Lewin regarded behaviour as a function of present life space. He insisted that behaviour depends on the present and not on the past or future.

8. Barrier: It is a dynamic part of an environment which resists action or movement through it and stands in the way of a person's reaching his goal.

9. Goal: Goal is a region of valence-region of life-space to which a person is psychologically attracted.

10. Tension: It is very closely to and is descriptive of psychological needs. Release of tension may be achieved either through reaching a goal or through reconstructing a life-space.

11. Cognitive Structure: It is an environment including a person as known by the person. It is synonymous with insight or understanding.

Classroom and Educational Implications of Field Theory

The classroom implications of the field theory include the significance of seeing the whole situation at the beginning of a lesson or an activity. The teacher should preview the activities involved and the problem to be encountered. Moreover, from the point of view of a field theorist, the teacher should keep in mind that the student, the teacher himself, other teachers, the school and the peer group—are all parts of the total situation.

The need for seeing the whole and details of the situation is necessary. The teacher must assist the students to perceive the goal and the barrier. The goal must be presented in an easier and simplified manner. Sometimes, partial insight of a situation may provide partial relief from tension.

Following are the major educational implications of this theory:

1. Reward and Punishment: According to Lewin, a learner because of attraction of rewards may resort to shortcut methods. For example, to get distinction in the examination (record), a student may resort to cheating (shortcut method). It is, therefore, necessary to put some

barriers over rewards in order to avoid access to such shortcut methods. In the case of punishment, however, one tends to leave the field because of the unpleasantness of the task, unless some strong barriers are there to keep him in the field. Reward activities often become interesting and are liked, while the activities controlled by the threat of punishment tend to be disliked.

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2. Success and Failure: Psychological analysis of success from the point of view of a learner shows the following possibilities:

- (a) To reach a goal, constitutes success.
- (b) To get within the region of the goal, may be a success in itself.
- (c) To make some progress in the direction of the goal, also constitutes a successful experience.
- (d) To select a socially approved goal is also an experience of success..

Psychological success or failure depends upon the self involvement of an individual and his level of aspiration. Success in an easy task might not be a successful experience, since it does not involve the ego of the person. Similarly, failure in a very difficult task might not be a failure.

3. Motivation: The repetition of an activity brings changes both in the cognitive structure and in the need-tension systems. As a result of this goal, attractiveness changes. Lewin called goal attractiveness valence and valence change. The valence may change in any of the following ways:

- (a) Attractive goals may lose attention if the activity related to them is repeated to the points of satiation.
- (b) Choice of goals is influenced by previous experiences of success and failure.

4. Memory: Lewin stated the following regarding memory:

- (a) Tasks which have no sense in completion are not remembered.
- (b) Unfinished tasks are remembered better than finished tasks because of psychological tension.
- (c) Tasks which lead to the satisfaction of many needs are remembered better than tasks which lead to the satisfaction of one need.

Check Your Progress

- 3. What is topology?
- 4. Define vector.

12.5 FESTINGER'S COGNITIVE DISSONANCE THEORY

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The cognitive dissonance theory explains why people change their attitudes. This theory of cognitive dissonance was proposed by Leon Festinger. Dissonance refers to the building up of uncomfortable tension when a person has two conflicting thoughts in the mind at the same time. One seeks to release this tension by reducing the importance of the dissonant beliefs, by adding more consonant beliefs that outweigh the dissonant beliefs, or by changing the dissonant beliefs so that they are no longer inconsistent.

The cognitive dissonance theory, asserts that there is a tendency for individuals to seek consistency among their cognitions, that is, between their beliefs and opinions. When there is an inconsistency between attitudes or behaviours, there is dissonance. An individual is most likely to change his or her attitude to accommodate the behaviour.

The effect of the dissonance depends upon a number of dissonant beliefs and the importance attached to each belief. When an individual is in a situation where there are two incompatible beliefs or actions and both the alternatives are equally attractive, the dissonance tends to be even more.

For example, a person who drinks alcohol knows that drinking is injurious to health. However, there is a discrepancy between one's behaviour and attitude. This person is in a state of tension because there is inconsistency in one's mind which one tries to reduce by altering either the attitude or the behaviour or by rationalizing for the discrepancy. One can rationalize by concluding that there is no direct effect of alcohol on health, or having a small drink will anyhow not affect one, or one may quit drinking because the dissonance is too great.

12.6 MISCHEL'S COGNITIVE-BEHAVIOURAL THEORY

Walter Mischel was the President of the Society of Personality and Social Psychology. He was also the President of Association of research in personality. He has been a professor at Columbia University since 1994. Mischel's Theory of Personality and Bandura's proposal were very similar. Walter Mischel's Theory of Personality is very similar to Bandura's proposal.

Walter Mischel's Theory of Personality states that the behaviour of an individual is basically influenced by two things- the specific attributes of a given situation and the manner in which he perceives the situation. Unlike the traditional social cognitive theories, Mischel stated that a person is likely to behave in a similar manner only if there is high probability of these actions

yielding the same results. He laid emphasis on the fact that we have individual differences. Therefore, the expectancies and values of a person need to be considered in order to predict the personality or behaviour of a person.

According to Mischel, there are five variables which contribute to the conditions of a particular situation. These variables are used to predict the manner in which a person is likely to behave:

1. **Cognitive strategies:** The various perceptions of a specific event. For example, something that is 'threatening' for one person may be 'challenging' for another.
2. **Competencies:** The intellectual capabilities as well as social skills of a person.
3. **Expectancies:** The expected results of different behaviours that are realized by the person inside his mind.
4. **Self-regulatory systems:** The groups of standards that are adapted by people in order to regulate their behaviour.
5. **Subjective values:** The respective value of each possible outcome of different behaviour.

Check Your Progress

5. What does the cognitive dissonance theory assert?
6. What does Walter Mische's Theory of Personality state?

12.7 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The concept of self is the perceptions, ideas, values a person has about himself.
2. According to Rogers, self actualization is a person's motivation to achieve his full potential. It is their desire to achieve the best in their life.
3. Topology is a branch of higher mathematics that deals with transformation in space.
4. The term vector represents a force which influences a movement towards a goal or away from it.
5. The cognitive dissonance theory, asserts that there is a tendency for individuals to seek consistency among their cognitions, that is, between their beliefs and opinions.
6. Walter Mischel's Theory of Personality states that the behaviour of an individual is basically influenced by two things- the specific attributes of a given situation and the manner in which he perceives the situation.

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12.8 SUMMARY

- According to this theory, people develop personal perceptions about the world. They, then use these perceptions or constructs to find meaning to their experiences and observations.
- Roger's theory emphasises on the concept of self. The concept of self is the perceptions, ideas, values a person has about himself. This self concept influences his behaviour and how he perceives the world.
- According to Rogers a person refers to 'ideal self' which any individual would like to be.
- The actualizing tendency is the main driving force in Rogers theory.
- According to Rogers, self actualizing is a person's motivation to achieve his full potential. It is their desire to achieve the best in their life. The neurotic personalities have to take the help of therapy to reduce their incongruence.
- The contribution of Carl Rogers to therapy is well recognized. His therapy was called as non-directive, as he felt that the therapist should not lead the client, but the client should direct the progress of the therapy and thus he changed the name of non-directive therapy to client-centred therapy.
- Kurt Lewin (1890–1947), unlike Pavlov, Skinner and gestaltian psychologists, conducted experiments on the study of behaviour of children.
- Lewin's theory rests on concepts derived from *topology*—a branch of higher mathematics that deals with transformation in space; from *vector analysis*—or the mathematics of directed lines; and from the sciences of chemistry and physics with concepts as *valence, equilibrium and field force*.
- The cognitive dissonance theory explains why people change their attitudes. This theory of cognitive dissonance was proposed by Leon Festinger.
- Dissonance refers to the building up of uncomfortable tension when a person has two conflicting thoughts in the mind at the same time.
- Walter Mischel was the President of the Society of Personality and Social Psychology. He was also the President of Association of research in personality.

12.9 KEY WORDS

- **Idiographic psychology:** The term '*idiographic*' comes from the Greek word 'idios', which means 'own' or 'private'. *Psychologists* who take

an *idiographic* approach focus on the individual and emphasise the unique personal experience of human nature.

- **Nomothetic psychology:** Nomothetic describes the study of classes or cohorts of individuals. Here the subject is seen as an exemplar of a population and their corresponding personality traits and behaviours.
- **Symbolization:** An unconscious mental process whereby one object or idea comes to stand for another through some part, quality, or aspect that the two share in common, with the symbol carrying the emotional feelings vested in the initial object or idea is called symbolization.

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12.10 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What is Roger's Self Theory?
2. Mention Roger's nineteen propositions which explained his theory.
3. What is the basis of the Lewin's field theory?
4. What are the main concepts used in Lewin's field theory?

Long Answer Questions

1. What are the classroom and educational implications of the field theory? Discuss.
2. Discuss Festinger's cognitive dissonance theory.
3. What are the main postulates of Mischel's cognitive behavioural theory? Analyse.

12.11 FURTHER READINGS

- Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.
- Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.
- Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.
- Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.
- Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

UNIT 13 PSYCHOLOGY IN INDIA

NOTES

Structure

- 13.0 Introduction
- 13.1 Objectives
- 13.2 Introduction to Psychology
- 13.3 Twentieth Century Psychology in India
- 13.4 Future Perspectives
- 13.5 Answers to Check Your Progress Questions
- 13.6 Summary
- 13.7 Key Words
- 13.8 Self Assessment Questions and Exercises
- 13.9 Further Readings

13.0 INTRODUCTION

Psychology is both an applied and academic science that studies the human mind and behaviour. It attempts to understand and explain thought, emotion and behaviour in order to assist in the treatment of mental health ailments, performance enhancement, self-help and many other areas affecting daily life.

Psychology evolved out of the fields of both philosophy and biology. The word psychology is derived from the Greek word *psyche*, meaning 'soul' or 'mind.' The disciplines of psychology stretch across the biological, social and cultural areas.

Biological psychology, studies how biological processes influence the mind and behavior. This area is closely linked to neuroscience. Social psychology is a field that uses scientific methods to study the influence of society on the individual, leading to behaviour such as conformity, aggression and prejudice. Cultural psychology is the study that a culture can have on the way an individual behaves and this is studied by comparing behaviour across different cultures. For example, the way Indians react to certain situations and events like happiness or marriage, is very different from what we see happening in the western world.

13.1 OBJECTIVES

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

- Define psychology
- Discuss about the twentieth century psychology in India
- Understand the future perspectives of psychology in India

13.2 INTRODUCTION TO PSYCHOLOGY

Psychology grew out of the philosophical tradition of thinking about the mind and body (refer Figure 13.1).

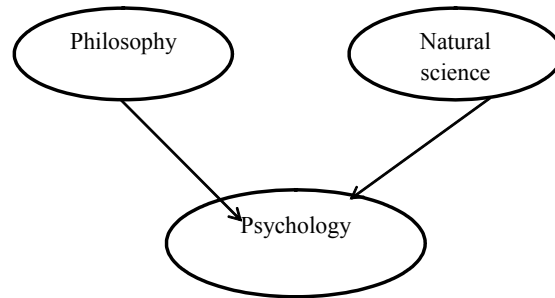


Fig. 13.1 Origin of the Study of Psychology

Psychology did not only emerge from philosophy. It has roots in natural sciences of biology and physiology as well (Benjamin, 1999). Psychology as a science emerged in the late 19th century with the work of Charles Darwin (1809–82).

Darwin proposed the principle of natural selection in his book *On the Origin of Species* in which he described the evolutionary process as favouring an organism's traits or characteristics that are best adapted to reproduce and survive. In the 19th century, physiologist also gave a boost to the new field of psychology.

Johannes Muller (1801–58), a German psychologist, proposed that an important role is to associate incoming sensory information with appropriate motor response.

In the late 19th century, psychology had emerged as a scientific discipline. However, modern psychology was born in December 1879 at the University of Leipzig, Germany, with the work of Wilhelm Wundt. In his experiments he mentioned that every mental process has a particular structure and could be studied qualitatively, i.e., the mental process could be measured. Gradually, the study of psychology was organized around different schools of thought that are as follows:

- **Structuralism:** Edward Tichener (1867–1927) was the pioneer contributor in the field of structuralism. He mainly focussed on the study of consciousness and its components, i.e., sensations, images and affects.
- **Functionalism:** It was proposed by William James (1842–1910), who studied the functions of mind and behaviour in adapting to the environment. James and his followers were looking at what goes on

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in a person's interaction with the outside world. James considered the mind as flexible and fluid, characterized by constant change.

- **Behaviourism:** It was developed by J.B. Watson (1878–1958), who proposed an objective study of observable behaviour. It is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behaviour.
- **Gestalt:** It was developed by Max Wertheimer, Wolfgang Kohler and Kurt Koffka (1886–1941). It referred to how a thing had been 'put together' (*gestalt*) and often translated as 'pattern' or 'configuration' in psychology.

Its precepts, formulated as a reaction against the atomistic orientation of previous theories, emphasized that the whole of anything is different from the sum of its parts; organisms tend to perceive entire patterns or configurations rather than bits and pieces. This school focussed on a holistic view and consciousness. Perception was the main area of study.

- **Psychoanalysis:** Sigmund Freud (1856–1939) founded the psychoanalytic school that mainly emphasized on the unconscious mind, defence mechanism of repression, conflict, anxiety, psychopathology, etc.

Although these schools provided great opportunities for the diversification of psychology, they were unable to explain the psychological processes in totality.

Recent movements emphasized vigorously on cognitive revolution, the neural processes, role of cultural processes, etc.

In modern India, psychology started at Calcutta University headed by Dr N.N. Sengupta (1961). Gradually, psychology departments were opened in various universities like Patna, Lucknow, and Mysore. The Indian Psychological Association was first founded in 1924.

Need for the study of psychology

Using common sense does not always work. How can a student develop a better memory? Why we sleep and why we dream? Why student tend to get sick before test/exam? We remain curious to know about these questions and try to make sense in our own ways. Our understanding is always based on beliefs and personal experience which is not authentic. We need accurate and authentic understanding of the principles describing the human behaviour.

Psychology is the subject that not only helps us to understand why other people do the things they do, but it also helps us in understanding ourselves and our own reaction to others. Psychology seeks to answer question that people have been asking for thousands of years. For example, according to

ancient myths most of the events—good or bad alike—occurred due to the pleasure or displeasure of the Gods. Earthquake occurred because the Gods were angry. Two people fall in love when they have been hit by Cupid's arrow. As these myths grew old, people turned to rational explanations. They attempted to explain events in terms of natural rather than supernatural causes.

Definition of Psychology

The word 'psychology' came from the two Greek words, *psyche* and *logos* which literally translate to the study of the soul and, later on, it progresses to the study of the mind. Today, many define psychology as the scientific study of behaviour and mental processes. Let us dissect the meaning to further understand the meaning of psychology. When we say behaviour, two things come to mind—covert behaviour and overt behaviour. Overt behaviours are behaviours visible to the eye; in short, seen behaviours. Examples of overt behaviours are the way we dress, the way we talk, the way we eat, the colour of our hair, and so on. In a nutshell, these are the actions of individuals or groups that we see every day. These are the actions that are observable and can be measured right there and then. In contrast, covert behaviours are behaviours not visible to the naked eye. These are unseen behaviours. Examples of covert behaviours would be anger, jealousy, pity, kindness, happiness, sadness. These are behaviours that we cannot discern at one glance unless we are very observant. Covert behaviours are also measurable, but it entails a more intricate process. We can deduce covert behaviours from overt behaviours. The player acting in front of the group, who is doing the actions, is actually doing overt behaviours. The person is acting out related behaviours so that his/her group mates would be able to guess the answer.

Another factor to consider is the mental factor. When we say mental processes, again two things come to mind—conscious mental process and unconscious mental process. Conscious mental processes are the processes wherein we are aware of the surroundings; for example, when we read a book we are aware of it, we are aware when we are walking, etc. Conscious means that we are thinking about it. While unconscious processes are the processes that we are not aware of or we are not constantly thinking about it. Consider breathing, we are not thinking moment by moment that we have to breathe; it comes in naturally. These are the two parts of our definition of psychology, the behaviour and mental processes. Sometimes we have the tendency to jump to hasty conclusions especially if we do not like the person. When we see a person who is always alone, it is easy for us to say that that person is anti-social. That he/she is a nerd, not exciting to be with. We made the conclusion based on just one observable overt behaviour. That is where the scientific study comes into play. Psychology is a scientific study and it is not just making conclusions out of a single overt behaviour. When we say scientific study, the conclusion is obtained through systematic and objective methods of observation and experimentation. It

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follows a step-by-step procedure in observing and conducting tests before making a comprehensive conclusion. Basically, psychology is a step-by-step observation and experimentation, of overt and covert behaviours to see if it is process consciously or unconsciously.

Check Your Progress

1. Who was the pioneer contributor in the field of structuralism?
2. Mention the etymological meaning of the word *psychology*.

13.3 TWENTIETH CENTURY PSYCHOLOGY IN INDIA

Since ages, various Indian scriptures have been dealing with mental constructs like mind, soul, thoughts, mental wellbeing, etc. In fact, careful observation has shown that Indian scriptures dating back thousands of years have been extensively dealing with the analysis of the state and content of mental activities.

The genesis of the ancient Indian thought occurred in the remote past, that is, during the 2300 BC to AD 1200 period. What follows below is a brief historical account of the period during which various components of ancient Indian thought evolved.

The period from 1500 BC to 900 BC is marked by the composition of the hymns of Rig Veda, Sam Veda and Yajur Veda. This was followed by the later Vedic period (900 to 500 BC) in which the Atharva Veda, Brahmanas, Aranyakas, Samhitas, Upanishads and Sutras were written. Later Gautam Buddha (503 to 483 BC) and Mahavira (540 to 488 BC) also made their contributions in the philosophy of Buddhism and Jainism respectively.

One does not find any rigid distinction between religion, philosophy and psychology in these scriptures. These scriptures help an individual to achieve self-realization and liberation from the miseries of life. It presumes that the source of all suffering lies within the person. Therefore, the emphasis was on exploring the world within, to alleviate suffering. Its major goal was to help individuals seek enduring harmony of spirit, mind and body for lasting happiness. Unfortunately, these rich traditions are seen to have little bearing on the academic psychology that is being taught in India today as most of the academic psychology is based on the western world and its ideologies.

Psychology was first introduced as a subject in the philosophy department at Calcutta University. The fascination for laboratory work and value-free research based on the natural science model sustained the interest of Indian psychology in the areas of sensation, perception, reaction time, etc. which was influenced by the work of Wundt and Titchner.

By applying western psychology and its principles, Indian psychologists began to develop a secular identity distinct from religion and philosophy. It was probably hoped that the explanation of positive science would provide the much needed respectability to Indian cultural practices and rituals. At that point the three streams of academic psychology, namely experimental psychology, psychological analysis and testing, were more prevalent.

Soon, Indian psychologists began to live in two parallel worlds, one focusing primarily on the western ideology and the other that began to relook at our rich Indian tradition and scriptures aiming to find a more holistic and complete psychology.

Soon psychologists began to realize that they had a responsibility to change their approach to research in socially relevant direction, focusing on social issues that were prevalent in the society at that time. After independence, a new development was the growth of psychology outside the University system. For instance, growth in the clinical field was seen. In addition, in the armed forces, both in the selection of army personnel and in the conduction of research on a wide range of defence related problems e.g. motivation, leadership, etc. was also seen.

By the mid 1970's, a crisis of identity in Indian psychology was imminent. The enthusiasm which the western-educated Indian psychologists carried along with their degree was waning as western psychology failed to shed light on Indian social issues and had not yielded any significant discoveries. The western psychological theories and research were also not found effective in understanding the Indian social reality. As a result, Indian psychologists became increasingly marginalized in society. A strong need was felt to return to the cultural roots. This called for the development of an indigenous psychology with its own paradigms to understand the concerned problems and issues.

The term —Indigenous psychology refers to the body of knowledge that derives its principles, laws and theories from the natural taxonomies that the people of a culture employ for organizing their thoughts and actions, constructing their realities, relating with others and designing their future. It reflects the collective efforts of a group of social scientific discipline that is unique to a culture.

Indigenous psychology involves the rejection of western psychology and not the rejection of western knowledge. The term *westernism* refers to an uncritical admiration of western culture, without acknowledging and respecting one's own rich heritage. It also rejects scientism, which refers to an uncritical acceptance of the mechanistic model without examining its appropriateness for the psychological domain.

There were three factors that shaped the nature of Indian psychology during the fifties and the sixties, namely:

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- (i) The construction of the Indian personality and culture by the foreign scholars.
- (ii) Separation of psychology from the philosophy department that deprived Indian psychologists from the opportunity to draw on the ancient body of knowledge.
- (iii) Higher susceptibility of Indian psychologists towards western influences in the absence of one's own conceptual framework.

As a result, some noticeable changes in the content and quality of Indian research and psychology were seen. For example, a number of studies were conducted to identify the unique features of Indian culture and to demonstrate empirically and through scriptures that the western concepts and theories were not applicable to the Indian cultural reality. The emphasis on problem oriented research began around the same time. It proposed that psychological research must not be merely an academic exercise but must have practical utility in the Indian setting. A development was cross-cultural testing of psychological concepts and theories. Another major development was that of psychology becoming more indigenous. At the core of indigenous was the belief that all knowledge inducing psychology is the product of historical and socio-cultural factors.

These research activities raised the hope that psychology in India is eventually arriving and is better equipped to deal with the social concerns and issues in the Indian setting. There is a growing realization that the distinct identity of psychology in India is based on culturally grounded psychological theories.

Behaviour needs to be understood not only in terms of an individual's emotional and thought processes but also and more importantly, within the control of the family, the community and other social collectives in which the individual is embedded. Psychology attempts to identify those mechanisms that lie at the interface between culture and the individual and locating how culture and psychology are viewed as integral to each other.

Soon Indian psychologists realized that the researcher would be a co-participant in the joint construction of reality, rather than an authority to control and predict the future of a person. In order to gain a better understanding of the psychological process, some of the commonly used methods in the Indian tradition are:

- Observation
- Introspection
- Reasoning
- Analysis of experiences
- *Guru shishya* relation

The Indian perspective broadly speaking regards self as a reflection of *Brahman*. The self is likely to experience distress and sorrow when it gets lost in worldly affairs or experiences. Only when the self becomes one with the *Brahman*, does it become fully healthy.

In Indigenous psychology one finds several perspectives to look at various psychological concepts. For instance, Rig Veda describes two aspects of personality, in which one aspect is eager to satisfy the bodily needs, desires, primal urges (*kama*) and is affected by experiences. The dissatisfaction of these needs and urges results in agony and sorrow. However, the other aspect of personality is the enlightened one which merely witnesses the events, unaffected by experiences.

In alignment with Rig Veda, Atharva Veda states that it is the evil thought that leads to antisocial and destructive deeds. Therefore, the task of man is to reject them. Yajur Veda describes two concepts, namely the *samkalpa* and the *vikalpa*. *Samkalpa* refers to determination, resolution or decision making, whereas the *Vikalpa* denotes irresolution, indecision, doubt and hesitation. It is this latter, which is regarded as the source of distress and illness. Therefore, the Vedas inspire man to come into contact with the universal consciousness.

Similarly, according to *Samkhya*, the three kinds of pains to which human beings are subjected to, are namely:

- (i) *Adhyatmika*: Which refers to the ill that arises from the body and mind.
- (ii) *Abhibhantika*: Which refers to the pain that arises from the other human beings and animals.
- (iii) *Adhidaivika*: Which refers to the unforeseen pains arising from natural phenomenon like floods, drought, etc.

The chief aim of these thinkers was to find out the root cause of all these various kinds of pain, through the method of rational analysis of experiences. Pain is believed to be concomitant with the association of *purusha* (the self) and *prakriti* (the non self).

Purusha is inactive, is merely a witness (*sakshi*), a non-doer (*akarta*) and is pure consciousness (*chetna*). It is an enjoyer without being a *karta* or a doer (*bhakta*). In contrast to *purusha*, *Prakriti* manifests itself in the form of *gunas*.

A man can be free from every kind of pain if he is able to isolate himself from *prakriti*. Thus it may be asserted that *sankhya* was the first attempt to arrive at a system of thought on the sole basis of reason.

However, Buddhism looks at pain in a bit different way. Buddha always wanted to find out the conditions which give rise to human suffering viz. disease, old age and death. He believed that suffering can be traced to ignorance (*avidya*), which may result from factors like:

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- Desire and attachment (*Kamvasna*)
- Attachment to existence (*Bhavana*)
- Holding wrong views (*Ditthaassna*)

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The ultimate goal in Buddhism is to overcome physical and mental suffering by getting over the feeling of sensual pleasure. He propounded the means to overcome suffering to following the Middle Path (*Madhyamarga*). The various means are as follows:

- Wisdom (*Prjna*): Which refers to right understanding and right thought
- Morality (*Sila*): Which refers to right speech, right action and right livelihood
- Concentration (*Samadhi*): Which refers to right effort, right mindfulness and right concentration

The Indigenous psychology's approach also attempts to document, organize, and interpret the understanding people have about themselves and their world by taking into account the ecological, philosophical, cultural, political and historical context. It emphasizes the use of natural taxonomies as units of analysis and examines how individuals and groups interact within their context. The information so obtained is used as a tool for discovering psychological invariants. It then tries to explain the causes behind the observed invariants and compares the results across different contexts for further refinement and extension.

Indigenous psychology's approach affirms the need to develop a descriptive understanding of a phenomenon in order to discover psychological and cultural invariants. It questions both the internal and the external validity of existing psychological knowledge and states that so far psychology has focused on assumptions, issues and problems of the west and that they cannot be generalized with other cultures. As a consequence, psychological knowledge is an example of imposed ethic and not true ethic knowledge (Berry 1989).

Indigenous psychology takes into account several aspects of one's own culture and heritage and tries to solve problems of people by speaking their language and making sense to them. In addition, Azuma (1984) states that one would fail to notice important aspects of the non western culture, if one tries to look at it from the western glasses.

Keeping in view the limited validity and unity of existing psychological knowledge, there is a significant need for indigenization. In fact, the inclusion of historical, social and cultural factors in psychology will make psychology more meaningful in the Indian setting. Also, when psychology gives Indian perspective its due position then it will also be able to create an identity for itself apart from providing more holistic information.

Check Your Progress

3. What does the term – indigenous psychology refers to?
4. What is westernism?

NOTES**13.4 FUTURE PERSPECTIVES**

The cross area and interdisciplinary approaches of psychology have gained considerable movement in the 21st century. Many of the new approaches to 21st century psychology integrate divergent perspectives or fill prior gaps in the field. The most important fields are as follows:

- **Cognitive neuroscience:** Cognitive neuroscience focusses on cognitive processes (the branch of biology that deals with the brain and nervous system). The key idea is that cognitive psychology provides hypothesis about specific cognitive capacities, such as recognizing faces and neuroscience explain about how these specific functions might be executed in the brain. It applies new techniques for studying the brain of normal participants while they are performing a cognitive task. The neuro imaging or brain scanning techniques create visual images of brain in action indicating which region of the brain shows the most neural activity during a particular task; for example, the study of how people remember information for long periods.

When they are asked to remember information for a few seconds, neuro imaging results show increase in neural activity in regions in the front of the brain. Whereas, during a long period of time, there is activity in an entire different region, one closer to the middle of the brain. Thus, different mechanism seems to be used for the short-term and long-term storage of information (Edward E. Smith and John Jonides, 1994; L. Squire, B. Knowlton and G. Musen, 1993).

Psychologists have also initiated affective neuroscience (J. Panksepp, 1998) to discover how emotional phenomena are executed in the brain; as well as social cognitive neuroscience (K.N. Ochsner and M.D. Lieberman, 2001) to discover how stereotyping, attitude, person, perception and self knowledge are executed in the brain.

- **Evolutionary psychology:** With the biological origin of psychological mechanism, evolutionary psychology emerged and it was thought that psychological mechanism have a genetic basis. The past increased our ancestors' chances of surviving and reproducing. Topics related to survival and successful reproduction have great importance; for example, how we select our mates, how we think and behave when experiencing particular emotion (D.M. Buss, 1991).

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- **Cultural psychology:** It is concerned with how the culture in which an individual lives, its tradition, language and worldview influences person's mental representation and psychological process. The divergent social system in fact creates and reinforces distinct systems of thought (R.E. Nisbett, K. Peng, I. Choi and A. Norenzayan, 2001). East-West differences in ways of thinking are now taken as evidence that East Asians engage in more holistic thinking, whereas West Asians engage in more analytic thinking (R.E. Nisbett). The way we use our brains is not universal or dictated by biology. Rather, our styles of thinking are malleable, shaped by those in our culture who came millennia before us, and reinforced by contemporary social practices.
- **Positive psychology:** Although positive psychology shares earlier with the humanistic psychology a concern with people's development towards their full potential, it departs from humanistic psychology by relying heavily on empirical methods. Positive psychology targets psychological phenomenon at levels ranging from the study of positive subjective experiences, such as happiness and optimism. It studies positive personality traits such as courage, wisdom and positive institutions. (Seligman and Csikszentmihalyi, 2000).

Check Your Progress

5. What is cognitive neuroscience?
6. What is cultural psychology concerned with?

13.5 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Edward Tichener (1867–1927) was the pioneer contributor in the field of structuralism.
2. The word 'psychology' came from the two Greek words, *psyche* and *logos* which literally translate to the study of the soul and, later on, it progresses to the study of the mind.
3. The term —Indigenous psychology refers to the body of knowledge that derives its principles, laws and theories from the natural taxonomies that the people of a culture employ for organizing their thoughts and actions, constructing their realities, relating with others and designing their future.
4. The term *westernism* refers to an uncritical admiration of western culture, without acknowledging and respecting one's own rich heritage.
5. Cognitive neuroscience is the branch of biology that deals with the brain and nervous system.

6. Cultural psychology is concerned with how the culture in which an individual lives, its tradition, language and worldview influences person's mental representation and psychological process.

13.6 SUMMARY

- Psychology did not only emerge from philosophy. It has roots in natural sciences of biology and physiology as well (Benjamin, 1999). Psychology as a science emerged in the late 19th century with the work of Charles Darwin (1809–82).
- Darwin proposed the principle of natural selection in his book *On the Origin of Species* in which he described the evolutionary process as favouring an organism's traits or characteristics that are best adapted to reproduce and survive. In the 19th century, physiologist also gave a boost to the new field of psychology.
- In the late 19th century, psychology had emerged as a scientific discipline.
- In modern India, psychology started at Calcutta University headed by Dr N.N. Sengupta (1961). Gradually, psychology departments were opened in various universities like Patna, Lucknow, and Mysore.
- The Indian Psychological Association was first founded in 1924.
- The word 'psychology' came from the two Greek words, *psyche* and *logos* which literally translate to the study of the soul and, later on, it progresses to the study of the mind.
- Since ages, various Indian scriptures have been dealing with mental constructs like mind, soul, thoughts, mental wellbeing, etc.
- Psychology was first introduced as a subject in the philosophy department at Calcutta University.
- By applying western psychology and its principles, Indian psychologists began to develop a secular identity distinct from religion and philosophy.
- The cross area and interdisciplinary approaches of psychology have gained considerable movement in the 21st century.

13.7 KEY WORDS

- **Discipline:** A branch of knowledge, typically one studied in higher education is called discipline.
- **Vedas:** The Vedas are a large body of religious texts originating in the ancient Indian subcontinent.

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- **Indigenous:** Anything originating or occurring naturally in a particular place; native is called indigenous.

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13.8 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Write a short note on the origin of psychology.
2. What are the main schools of thought around which psychology was organized?
3. Why is the study of psychology required?

Long Answer Questions

1. Discuss the origin of psychology in India.
2. What are the most important fields of psychology? Discuss.
3. Describe indigenous psychology in detail.

13.9 FURTHER READINGS

- Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.
- Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.
- Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.
- Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.
- Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.

UNIT 14 APPROACHES OF PSYCHOLOGY

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Structure

- 14.0 Introduction
- 14.1 Objectives
- 14.2 Constructivism
- 14.3 Social Constructivism: Vygotsky and Bruner
 - 14.3.1 Bruner's Theory on Constructivism
 - 14.3.2 Constructivism Theory of Gregory
- 14.4 Answers to Check Your Progress Questions
- 14.5 Summary
- 14.6 Key Words
- 14.7 Self Assessment Questions and Exercises
- 14.8 Further Readings

14.0 INTRODUCTION

The theory of constructivism is based on observation and scientific study of how people learn. As per this theory, people construct their own understanding and knowledge of the world by experiencing things and reflecting on those experiences. Whenever a person encounters something new, he has to reconcile it with his previous ideas, beliefs and experience and then maybe either changing what they believes in, or discarding the new information as irrelevant.

14.1 OBJECTIVES

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

- Discuss constructivism theory of Gregan
- Understand the concept of constructivism
- Describe social constructivism theory

14.2 CONSTRUCTIVISM

The constructivist view of learning points us towards a number of teaching practices. It usually means encouraging students to use active techniques (experiments, real-world problem solving) to enhance their knowledge base, then reflect on new additions and the overall effect, and then externalize what they are doing and how their understanding is changing. It is important that the teacher makes sure that he understands the already firm and existing

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conceptions of the students, and guides the activity to address them and then build on them.

Teachers who believe in the theory of constructivism encourage students to constantly assess how the activity is helping them gain understanding. By questioning themselves and their strategies, students in the constructivist classroom ideally become “expert learners.” This gives them ever-broadening tools to keep learning. With a well-planned classroom environment, the students understand ‘how to learn’.

When students regularly reflect on their experiences, their ideas gain in complexity and power, and they develop increasingly strong abilities to integrate new information. Here the teacher’s main role is to encourage this learning and reflection process.

Constructivism does not negate the active role of the teacher or the value of expert knowledge. Constructivism modifies that role, so that teachers help students to construct knowledge rather than to reproduce a series of facts.

Let us consider groups of students in a science class discussing a problem in chemistry. Despite knowing the solution to the problem, the teacher focuses on helping students restate their questions in useful ways. He suggests that each student reflect on and examine his current knowledge. When one of the students comes up with the relevant concept, the teacher seizes upon it, and indicates to the group that this might be a fruitful avenue for them to explore. They design and perform relevant experiments. Later, the teacher talks to the students about what they have learned, and how their observations and experiments have helped them to understand the concept.

The constructivist teacher thus provides tools such as problem-solving and inquiry-based learning activities with which students formulate and test their ideas, draw inferences, and strengthen their knowledge. Constructivism transforms the student from a passive recipient of information to an active participant in the learning process. Always guided by the teacher, students construct their knowledge actively rather than just passively absorbing knowledge from the textbook or the teacher.

Benefits of Constructivism

- (a) Children learn more, and enjoy learning more when they are actively involved, rather than passive listeners.
- (b) Education works best when it concentrates on thinking and understanding, rather than on rote memorization. Constructivism concentrates on understanding how to think and learn.
- (c) Constructivism gives students a sense of achievement in what they learn, since learning is based on students’ questions and explorations, with the students often having a hand in designing the assessments as well.

- (d) By combining learning activities in a realistic, real-world context, constructivism stimulates and engages students. Students in constructivist classrooms learn to question things and to apply their natural curiosity to the world.
- (e) Constructivism promotes social and communication skills by creating a classroom environment that emphasizes collaboration and exchange of ideas. Students must learn how to articulate their ideas clearly as well as to collaborate on tasks effectively by sharing in group projects.
- (f) Students learning by constructivism exchange ideas and learn to 'negotiate' with others. This is essential to success in the real world, since they will always be exposed to a variety of experiences in which they will have to cooperate and navigate among the ideas of others.

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Criticism of Constructivism

Constructivism has been criticized on a few grounds. Some of the charges critics have level against it are:

- (a) **It is elitist.** Critics say that constructivism and other "progressive" educational theories could be successful with children from privileged backgrounds who are fortunate in having outstanding teachers, committed parents, and affluent home environments. They argue that disadvantaged children, lacking such resources and exposures, benefit more from more explicit instruction.
- (b) **Majority tyranny prevails.** Critics say that the Theory of Constructivism leads to "group think." They say the collaborative aspects of constructivist classrooms tend to produce a 'tyranny of the majority,' in which a few students' voices or interpretations dominate the group's conclusions, and those students who have a dissenting opinion would generally be forced to conform to the emerging consensus.
- (c) **Impractical.** Critics also feel that the present world of educational systems, time and syllabi would never practically allow classroom functioning to be based on the methodology propounded by constructivism. They also feel there is little hard evidence that constructivist methods work.

Concluding Remarks

Different theories of learning have advocated different learning approaches. Both teaching and learning have immensely improved by the contribution of these approaches. Each of these, in its own way, has added something or the other to the understanding of the complex learning process. However, No single approach alone is adequate enough for the proper understanding of the different phases and various types of learning. To illustrate this, it can be said

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that the different principles of learning—readiness, exercise, effect, insight, whole patterns, conditioning, practice, primary association and concomitant learning—each has its own use and value in describing and explaining the learning process and to make it more effective and efficient by combining all these approaches rationally.

Check Your Progress

1. What is the theory of constructivism based on?
2. What does constructivist theory encourage?

14.3 SOCIAL CONSTRUCTIVISM: VYGOTSKY AND BRUNER

Born in Russia, Lev Vygotsky (1896-1934) was taught by a private tutor. The tutor adopted the method of teaching which included engaging in critical inquiries and philosophical conversations with his students. This shaped Vygotsky’s views on the importance of social dialogue in learning.

Social constructivism is a variety of cognitive constructivism which lays emphasis on the collaborative nature of learning. Social constructivism was developed by post-revolutionary Soviet psychologist Lev Vygotsky. Despite being a cognitivist, Vygotsky rejected the assumption made by cognitivists such as Perry and Piaget that it was possible to separate learning from its social context. He argued that all cognitive functions have their origin in social interactions and that learning did not simply comprise the accommodation and assimilation of new knowledge by learners; it was the process by which learners were integrated into a knowledge community. According to Vygotsky (1978, 57),

“Every function in the child’s cultural development appears twice: first, on the social level and, later on, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals.”

Vygotsky’s theory of social learning has been expanded upon by numerous later researchers and theorists.

14.3.1 Bruner’s Theory on Constructivism

Bruner’s theory on constructivism proposes that the idea of learning is an active process in which the people who are learning are able to form new ideas on the basis of their current and past knowledge. A cognitive structure is defined as the mental process which offers the learner the ability to organize

experiences and derive meaning from them. These cognitive structures help the learner to construct their new concepts. The learner takes pieces of their past knowledge and experiences and organizes them so as to make sense of what they know. A learner then bases further concepts and solve additional problems on the basis of the combination of what they already processed and what they think should be processed next.

The resources used by a teacher should focus on encouragement, aiding and allowing the student to understand the main principles on their own. Communication between the learner and teacher is mandatory. Socratic learning is suggested as the best method of communication in this theoretical framework. Socratic learning allows the teacher to actively engage with the students, take note of the things that the learner verbalizes, their frustrations and their progression.

The four major principles of Bruner's theory on constructivism includes; first, a predilection toward learning. The second, how a grouping of knowledge is constructed so that it can be best understood by the learner. The third is effective manners for the teacher to present required material to the learner, and the fourth aspect is the progression of rewards as well as punishments.

Bruner is poignant about language and how this affects cognition within this theory of learning development. It is important to identify the differences between the language of an adult and the language used by children. Children need time to progress in the conceptual learning and language as well. Thus, parents and teachers alike are encouraged to envelop the "scaffolding" method of communication. Scaffolding is a strategy which aims at simplifying the tasks by taking smaller steps, all of which lead to the final outcome.

14.3.2 Constructivism Theory of Gregory

Gregory (1970) has proposed a constructivist (indirect) theory of perception. This theory is a 'top down' theory.

Perceptions as hypotheses: R.L. Gregory (B 1923)

Gregory proposes that perceiving is an activity resembling hypothesis formation and testing. He says that signals received by the sensory receptors trigger neural events. The appropriate knowledge interacts with these inputs so as to enable us to make sense of the world. Gregory has supported his theory with ample evidence. Some of which is underlined below:

1. 'Perception allows behaviour to be generally appropriate to the characteristics of the objects which do not make sense'. For example, we respond to certain objects as though they are doors even though we can only see a long narrow rectangle as the door is ajar.

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2. 'Perceptions can be ambiguous'. A good example of this is the necker cube. When you stare at the crosses on the cube the orientation can suddenly change, or flip'. It becomes unstable and a single physical pattern can produce two perceptions.
3. 'Highly unlikely objects tend to be mistaken for likely objects'. Gregory has demonstrated this with a hollow mask of a face. Such a mask is generally seen as normal, even when one knows and feels the real mask. There seems to be an overwhelming need to reconstruct the face, similar to Helmholtz's description of 'unconscious inference'.

Check Your Progress

3. What does Bruner's theory of constructivism propose?
4. What does R.L. Gregory propose?

14.4 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The theory of constructivism is based on observation and scientific study of how people learn.
2. It usually means encouraging students to use active techniques (experiments, real-world problem solving) to enhance their knowledge base, then reflect on new additions and the overall effect, and then externalize what they are doing and how their understanding is changing.
3. Bruner's theory on constructivism proposes that the idea of learning is an active process in which the people who are learning are able to form new ideas on the basis of their current and past knowledge.
4. Gregory proposes that perceiving is an activity resembling hypothesis formation and testing.

14.5 SUMMARY

- The theory of constructivism is based on observation and scientific study of how people learn. As per this theory, people construct their own understanding and knowledge of the world by experiencing things and reflecting on those experiences.
- The constructivist view of learning points us towards a number of teaching practices. It usually means encouraging students to use active techniques (experiments, real-world problem solving) to enhance their knowledge base, then reflect on new additions and the overall effect,

and then externalize what they are doing and how their understanding is changing.

- Constructivism does not negate the active role of the teacher or the value of expert knowledge.
- The constructivist teacher thus provides tools such as problem-solving and inquiry-based learning activities with which students formulate and test their ideas, draw inferences, and strengthen their knowledge.
- Different theories of learning have advocated different learning approaches. Both teaching and learning have immensely improved by the contribution of these approaches. Each of these, in its own way, has added something or the other to the understanding of the complex learning process.
- Born in Russia, Lev Vygotsky (1896-1934) was taught by a private tutor. The tutor adopted the method of teaching which included engaging in critical inquiries and philosophical conversations with his students.
- Social constructivism is a variety of cognitive constructivism which lays emphasis on the collaborative nature of learning.
- Bruner's theory on constructivism proposes that the idea of learning is an active process in which the people who are learning are able to form new ideas on the basis of their current and past knowledge.

NOTES

14.6 KEY WORDS

- **Constructivism:** Constructivism is basically a theory – based on observation and scientific study – about how people learn. It says that people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences.
- **Hypothesis:** A supposition or proposed explanation made on the basis of limited evidence as a starting point for further investigation is called hypothesis.

14.7 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Write a short note on the theory of constructivism.
2. What are the benefits of constructivism?
3. What are the criticisms of constructivism?

Long Answer Questions

1. Discuss Vygotsky's theory of constructivism.
2. Explain Bruner's theory on constructivism.

NOTES

14.8 FURTHER READINGS

- Ross, Brian H. 2004. *The Psychology of Learning and Motivation: Advances in Research and Theory*. Amsterdam: Elsevier.
- Ross, Brian H. 2012. *The Psychology of Learning and Motivation*. Amsterdam: Elsevier.
- Ekman, Davidson & Richard Davidson. 1994. *The Nature of Emotion: Fundamental Questions*. UK: Oxford University Press.
- Schultz, Duane P & Sydney Ellen Schultz. 2016. *Theories of Personality*. Massachusetts: Cengage Learning.
- Thorndike, Edward Lee. 1913. *The Psychology of Learning*. New York: Columbia University.