It is commonly observed that memory increases the efficiency of a person as it records, retains and helps in recalling any information after a gap of time. This unit deals with the meaning of the term 'memory', its factors and types, whether memory can be improved or not, and the meaning of the term 'forgetting' and its different causes.

11.3 MEMORY - ITS MEANING

To memorize or to remember is one of the most important mental processes of a human being. It is a process through which a person brings to his mind any past information to facilitate his learning at present thereby improving his adjustment with the environment. H.J. Eysenck defined 'memory' as the 'ability of an organism to store information from earlier learning processes (experience retention) and reproduce that information in answer to specific stimuli."

Memory consists of two major abilities of the mind, (a) the general power to store information of past experiences, and (b) the ability to recognize, at present, anything that was learnt in the past. These abilities are important for a person as they guide him to achieve his goals. Woodworth and Marquis defined memory as "a mental power which consists in learning, retaining and remembering what has previously been learnt."

11.4 FACTORS OF MEMORY

Memory is a mental ability in which different types of processes are involved. There are four different factors or processes in memory. They are briefly explained below :

a) **Learning**: This is the first factor of the process of memory. Learning is the acquisition of new information of experiences which leads to establishment of association of ideas in mind. This factor is the way to register the first impression of an object or idea without which memorization cannot take place.

b) **Retention:** Retention is the second factor of memory. It means the sustenance of an experience in the subconscious level of the mind for a sufficient amount of time. When anything is learnt, it is natural that some of the learnt material is saved or stored in the mind. So it is clear that with the trials of learning retention takes place. However, it differs from individual to individual.

10.6.1 Theory of Learning by Insight

The *Theory of learning by insight* is the contribution of the Gestalt School of Psychology. The school was developed in Germany in 1912 under the leadership of Wertheimer, Koffka and kohler. The German word 'Gestalt' may be translated as "form" or configuration, more simply as an organised 'whole', in contrast with collection of parts. Gestalt psychologist considers the process of learning to be a Gestalt, i.e., 'organised whole'.

The Theory of learning by insight was introduced by the Gestalt psychologists. The basic idea of this theory is that a thing or a problem cannot be understood by the study of its constituent parts but only by the study of it as a totality or whole. Primarily Gestalt psychology is concerned with the nature of perception. While learning, a learner always perceives the situation as a whole and after examining and evaluating the different relationships, takes the proper decision intelligently Gestalt psychologists used the term "insight" to describe the perception of the whole situation by the learner and his intelligence in responding to the proper relationship. In this connection we can mention Kohler, the German Psychologist. He used the term 'insight' to describe the learning of his ones. He conducted many experiments on Chimpanzees from 1913-1917 to show learning by insight. In one experiment, a chimpanzee was placed in a cage. There were two sticks inside the cage- one longer than the other. One was hollow at one end so that the other stick could be thrust into it. Outside the cage, on one side at a distance too far from the chimpanzee a bunch of bananas was kept. The chimpanzee was hungry. When he saw the bananas, he tried to reach it with his long arm but failed. Then he used the short stick but failed again. All of a sudden the chimpanzee perceives that the two sticks can be joined together to form a long stick and reached the banana. Thus the chimpanzee perceived the situation and established the relationship between the sticks and the bananas.

Kohler repeated the experiment by bringing some variations in the design. On the basis of his experiments he described the process of 'Learning by insight' as follows:

- The learner perceives the situation in its totality.
- The learner analyses the various aspects of the situation and tries to establish a meaningful relationship among them.
- The process goes on till he solves the problematic situation all of a sudden. That is what we mean that a learner suddenly gets an insight into the problem.

Educational Implications of the Theory of Insightful Learning :
The most important contribution of the Insight Theory is that it has given importance on inner psychological functioning such as perception, concept formation, problem solving etc. It has made learning purposeful and a goal oriented task. The learner has to be motivated by arousing his interest and curiosity for learning process. It is not a mechanical process.

- This theory of learning has laid emphasis on perceiving the learning problem as a whole and is very helpful in higher stage of education.
- In a classroom situation the teacher should not work out everything of a lesson problem without leaving any room for the student's own exercise. Rather he should act as guide in combining and correlating the parts of the problem in a classroom situation. The problem will solved by the students themselves.
- Creative potential of the student may find expression through this method. It encourages undertaking research and experimental studies in higher education.
- In modern education learning and knowledge related to a subject is considered as an integrated whole. This has made significant contributions in the organisation of curriculum, scheme of studies, work plan for teaching learning etc.

UNIT 11: MEMORY AND FORGETTING

UNIT STRUCTURE

11.1 Learning Objectives
11.2 Introduction
11.3 Memory, its Meaning
11.4 Factors of Memory
11.5 Marks of Good Memory
11.6 Types of Memory
11.7 Economic Methods of Memorization
11.8 Forgetting
11.9 Let Us Sum Up
11.10 Further Reading
11.11 Answers to Check Your Progress
11.12 Model Questions

11.1 LEARNING OBJECTIVES

After going through this unit you will be able to -

- explain the meaning of the term 'memory'
- analyze the importance of memory in learning.
- classify the different factors of memory.
- identify the characteristics of good memory.
- describe the different types of memory.
- adopt the easier methods of memorization.
- explain the term of 'forgetting' and classify the different causes of forgetting.

11.2 INTRODUCTION

This unit will introduce you to a very important mental aspect of human beings i.e. memory. In today's world, the most important objective of education is the expansion of knowledge of the learners for better adjustment with the changing social scenario, and this is possible by the maximum retention of the knowledge gained. When an individual learns something, certain things are very important from the psychological point of view –

(a) What is the form of the learnt material,
(b) How he recalls what he has learnt,
(c) How much of it has been forgotten.



10.11 MODEL QUESTIONS

A) Short Questions (Answer each question in about 150 words)

Q.1. What is connectionism? Explain

Q.2. Who developed the theory of classicial conditioning? Explain the basic thought of classical conditioning.

Q.3. What are the educational implications of classicial conditiong? Explain

Q.4. What do you mean by behaviouristic approach? What are the limitations of this approach?

Q.5. What do you mean by learning by insight? What are the main characteristics of cognitive approach of learning?

B) Long Questions (Answer each question in about 300-500 words)

Q.1. Explain the theory of Connectionism. Discuss its limitations.

Q.2. What are the main differences between classical and operant conditioning?

Q.3. Explain the contribution of Skinner towards educational theory and practice.

Q.4. What is insight learning? Illustrate with classroom learning.

10.7 LIMITATIONS OF COGNITIVE APPROACH

In the field of learning, criticism has been made against the term 'insight'. Insight may be defined in two ways. One way of defining it is that is descriptive of some end-result. For example- it a child can operate a mechanical toy quickly and accurately, we say he is showing 'insight'. Another way of defining the term is to make it an explanatory principle of learning. An example is when we say that a person 'learns by insight' the Gestalt psychologists use the term sometimes descriptively and sometimes as an explanatory approach. Psychologists find it hard to accept insight as an explanatory principle.

According to some psychologist insight into the problem may be preceded by the long trial and error process. It is very difficult to know how much of trial and error learning has preceded the flash of understanding.

Insight may work well in higher stage of learning but it is not suitable for young learners whose power of thinking, reasoning and intelligence are inadequate to cope with the problem. Even an ordinary individual in society may not be capable of exercising insight.

On the whole we must admit that the 'Theory of insight' with its emphasis on understanding the relations has greatly influenced educational theory.



CHECK YOUR PROCESS

Q.11. Explain the meaning of the term "Gestalt"

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Q.12. Who developed the Insight Theory of learning?

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Q.13. What is learning by insight?

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10.8 LET US SUM UP

- In this unit we have discussed the different theories of learning. We have divided the theories in two broad categories- cognitive and behaviouristic.
- Under behaviouristic category, first we have discussed Throndike's Connectionism, which explain learning as a bond connection between stimulus and response.
- Operant conditioning of Skinner gave importance on operant behaviour or response behaviour, which should be reinforced from time.
- Under behaviouristic approach, we have studied the basic tenets, the characteristics and the concept of behaviourism, its educational implications and its limitations also.
- Under the cognitive approach to learning we have discuss the insight theory of learning developed by Gestalt psychologists. They tried to interpret learning as a purpose as well as an exploratory and creative enterprise. A learner while learning must perceive the situation as a whole; then he will be able to learn. We have also studied the main principles, characteristics, educational implications and limitations of the theory.



10.9 FURTHER READING

1) Aggarwal, G.. C. (1996*) Essential of Educational Psychology*, Vikas Publishing House, New Delhi.
2) Chauhan S. S. : Advanced Educational Psychology, Vikas Publishing House, 1993.
3) Sarma M. (2008) Educational Psychology, Tushar Publishing House, Dibrugarh.



10.10 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q. No. 1 : E.L. Throndike.

Ans. to Q. No. 2 : Learning is a bond connection between stimulus and response

Ans. to Q. No. 3 : Behaviouristic approach

Ans. to Q. No. 4 : Ivan P. Pavlov

Ans. to Q. No. 5 : Conditioned response means an artificial stimulus is associated with the natural stimulus. The reaction of the organism is same as natural stimulus.

Ans. to Q. No. 6 : True

Ans. to Q. No. 7 : True

Ans. to Q. No. 8 : B. F. Skinner.

Ans. to Q. No. 9 : Reinforcement means rewarding the learner at every step of learning.

Ans. to Q. No. 10 : *Programmed learning* is a method of learning thorough a specially designed machine. Subject matter is presented in small steps and carefully reinforcement. *Teaching machines* present lessons in predetermined sequence provide means of response and infrom correctness.

Ans. to Q. No. 11 : Gestalt is a German word meaning configuration or from.

Ans. to Q. No. 12 : Gestalt psyshologists Koffka, Kohler and Wertheimer.

Ans. to Q. No. 13 : Learning by insight is preceiving or understanding the situation as a whole. First analyse the different parts of the problem. Solution will come as a flash of light and that is insight.