

1. Details of Module and its structure

Module Detail	
Subject Name	Psychology
Course Name	Psychology 02 (Class XI, Part- 2)
Module Name/Title	Learning – Part 4
Module Id	kepy_10604
Pre-requisites	The learner should have an understanding of the nature of learning, types of learning. The learners will also be expected to have a knowledge of observational learning, cognitive learning. Verbal Learning, Concept Learning, Skill Learning and Transfer of Learning.
Objectives	The learners will be able to: <ul style="list-style-type: none">• explain different factors facilitating learning,• understand various psychological processes that occur during learning and influence its course,• explain the learning styles, and• familiarise themselves with some applications of learning principles.
Keywords	Continuous reinforcement, partial reinforcement, motivation, intrinsic motivation, extrinsic motivation, preparedness for Learning, relational style, analytics style, learning disability, hyperactivity, dyslexia, implosive therapy, assertive learning, flooding, aversive therapy, systematic desensitization, modelling, biofeedback

2. Development Team

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1. Factors Facilitating Learning

In the preceding section we examined the specific determinants of learning, such as contiguous presentation of Conditioned stimulus(CS) and Unconditioned stimulus(US) in classical conditioning; number, amount, and delay of reinforcement in operant conditioning; status and attractiveness of models in observational learning; procedure in verbal learning; and the nature of rules and perceptual features of objects and events in concept learning. Now, we shall discuss some general determinants of learning. This discussion is not exhaustive. Rather it deals with some salient factors only which are found very important.

a. Continuous vs Partial Reinforcement

In experiments on learning the experimenter can arrange to deliver reinforcement according to a specific schedule. In the context of learning, two kinds of schedules namely continuous and partial have been found very important. In continuous reinforcement the participant is given reinforcement after each target response. This kind of schedule of reinforcement produces a high rate of responding. However, once the reinforcement is withheld, response rates decrease very quickly, and the responses acquired under this schedule tend to extinguish. Since organism is getting reinforcement on each trial, the effectiveness of that reinforce is reduced. In such schedules where reinforcement is not continuous, some responses are not reinforced. Hence, they are called partial or intermittent reinforcement.

Impartial or intermittent reinforcement., an organism often makes several responses that are not reinforced. Therefore, it becomes difficult to tell when a reinforcement has been discontinued completely and when it has merely been delayed. When reinforcement is continuous it is easier to tell when it has been discontinued. This kind of difference has been found crucial for extinction. It has been found that extinction of a response is more difficult following partial reinforcement than following continuous reinforcement. The fact that the responses acquired under partial reinforcement are highly resistant to extinction is called partial reinforcement effect.

b. Motivation

All living organisms have survival needs and human beings, in addition, have growth needs. Motivation is a mental as well as a physiological state, which arouses an organism to act for fulfilling the current need. In other words, motivation energises an organism to act vigorously for attaining some goal. Such acts persist until the goal is attained and the need is satisfied. Motivation is a prerequisite for learning. Why does a child forage in the kitchen when the mother is not in the house? S/he does so because s/he needs sweets to eat for which s/he is trying to locate the jar in which sweets are kept. During the course of foraging the child learns the location of the jar. In another example, a hungry rat is placed in a box. The animal forages in the box for food. Incidentally it presses a lever and food drops in the box. With repeated experience of such activity, the animal learns to press the lever immediately after the animal is placed there.

Have you ever asked yourself why you are studying this course in Psychology? You are doing so to pass with good marks or grades in your final examination. Some of you are doing so to understand human behaviour better. The more motivated you are, the harder you work for learning to take place. Your motivation for learning something arises from two sources. You learn many things because you enjoy them (intrinsic motivation) or they provide you the means for attaining some other goal (extrinsic motivation).

c. Preparedness for Learning

The members of different species are very different from one another in their sensory capacities and response abilities. The mechanisms necessary for establishing associations, such as S-S or S-R, also vary from species to species. It can be said that species have biological constraints on their learning capacities. The kinds of S-S or S-R learning an organism can easily acquire depends on the associative mechanism it is genetically endowed with or prepared for. A particular kind of associative learning is easy for apes or human beings but may be extremely difficult and sometimes impossible for cats and rats. It implies that one can learn only those associations for which one is genetically prepared.

The concept of preparedness may be best understood as a continuum or dimension, on one end of which are those learning tasks or associations which are easy for the members of some species, and on the other end are those learning tasks for which those members are not prepared at all and cannot learn them. In the middle of the continuum fall those tasks and associations

for which the members are neither prepared or unprepared. They can learn such tasks, but only with great difficulty and persistence.

2. The Learner: Learning Styles

You may have observed that some children, sometimes from the same family, perform well in school whereas others do not. There has been a great deal of research on learning styles over the last several decades. It demonstrates the differences in the way people learn within the same class, culture, community or socio-economic group and those belonging to different groups.

Learning style may be defined as ‘a learner’s consistent way of responding to and using stimuli in the context of learning’. In other words, it is ‘the way in which each learner begins to concentrate, processes, and retains new and complex information’. It may be noted that this interaction occurs differently for everyone. For example, you may have noticed that children in your class are unique in their personalities, cultural experiences, and values. Different students prefer different learning environments, learning modalities and they all have unique strengths, talents, and weaknesses.

Therefore, it is necessary to examine each individual’s personal characteristics to determine what is most likely to trigger each learner’s concentration, maintain it, respond to her or his natural processing style and facilitate long-term memory. There are various instruments which are used to determine a student’s learning style.

Learning styles are mainly derived from Perceptual Modality, Information Processing, and Personality Patterns. A brief description of these approaches are given below:

1. Perceptual Modality are biologically-based reactions to the physical environment. It refers to the preferences of persons through which they take in information such as auditory, visual, smell, kinaesthetic, and tactile.

2. Information Processing distinguishes between the way we are structured to think, solve problems, and remember information. This may be thought of as the way we process information. For example, active/reflective, sensing/intuitive, sequential/global, serial/simultaneous, etc.

3. Personality Patterns are the way we interact with our surroundings. Each one of us has a preferred, consistent, and distinct way of perceiving, organising, and retaining information. This approach focuses on understanding how personality affects the way people interact with the environment, and how this affects the way individuals respond to each other within the learning environment.

There are several dimensions along which learning styles differ. For example, Anderson differentiated between analytic and relational styles of learning. It is clear that people with a relational style learn material best through exposure to a full unit or phenomenon. They comprehend parts of the unit only by understanding their relationship to the whole. On the other hand, people with an analytical learning style learn more easily when information is presented step by step in a cumulative sequential pattern that builds towards a conceptual understanding.

One must remember that the various learning styles are points along a scale that help us to discover the different forms of mental representation. They do not characterise people. Therefore, we should not divide the population into a set category (e.g., visual person, extrovert, etc.). We are capable of learning under any style, no matter what our preference may be.

3. Learning Disabilities

You must have heard, observed or read that thousands of children get enrolled for education in schools. Some of them, however, find the demands of the educational process too difficult to meet, and they drop out. Such students are called “drop-outs”. The reasons for this are numerous, such as sensory impairment, intellectual disability, social and emotional disturbance, poor economic conditions of the family, cultural beliefs and norms or other environmental influences. Apart from these conditions, there is another source of obstacle in the continuance of education that is called learning disabilities. It makes school learning, i.e. acquisition of knowledge and skills too difficult to grapple with. Such children also fail to move forward in their learning activities.

Learning disability is a general term. It refers to a heterogeneous group of disorders manifested in terms of difficulty in the acquisition of learning, reading, writing, speaking, reasoning, and mathematical activities. The sources of such disorders are inherent in the child. It is presumed that these difficulties originate from problems with the functioning of the central nervous

system. It may occur in conjunction with physical handicaps, sensory impairment, intellectual disability or without them.

It must be noted that learning disabilities may be observed as a distinct handicapping condition in children of average to superior intelligence, adequate sensory motor systems, and adequate learning opportunities. If it is not remedied, it may continue throughout life and affect self-esteem, vocation, social relations, and daily living activities.

Symptoms of Learning Disabilities

There are many symptoms of learning disabilities. They manifest in different combinations in children who suffer from this disorder irrespective of their intelligence, motivation, and hard work for learning.

1. Difficulties in writing letters, words and phrases, reading out text, and speaking appear quite frequently. Quite often they have listening problems, although they may not have auditory defects. Such children are very different from others in developing learning strategies and plans.
2. Learning-disabled children have disorders of attention. They get easily distracted and cannot sustain attention on one point for long. More often than not, attentional deficiency leads to hyperactivity, i.e. they are always moving, doing different things, trying to manipulate things incessantly.
3. Poor space orientation and inadequate sense of time are common symptoms. Such children do not get easily oriented to new surroundings and get lost. They lack a sense of time and are late or sometimes too early in their routine work. They also show confusion in direction and misjudge right, left, up and down.
4. Some children with learning disability have poor motor coordination and poor manual dexterity. This is evident in their lack of balance, inability to sharpen pencil, handle door knobs, difficulty in learning to ride a bicycle, etc.
5. These children fail to understand and follow oral directions for doing things.

6. They misjudge relationships as to which classmates are friendly and which ones are indifferent. They fail to learn and understand body language.

7. Children with learning disability usually show perceptual disorders. These may include visual, auditory, tactual, and kinaesthetic misperception. They fail to differentiate a call-bell from the ring of the telephone. It is not that they do not have sensory acuity. They simply fail to use it in performance.

8. Fairly large numbers of children with learning disability have dyslexia. They quite often fail to copy letters and words; for example, they fail to distinguish between b and d, p and q, P and 9, was and saw, unclear and nuclear, etc. They fail to organise verbal materials.

It must be noted that learning disabilities are not incurable. Remedial teaching methods especially during the early years go a long way in helping them to learn and become like other students. Educational psychologists have developed appropriate techniques for correcting most of the symptoms related to learning disabilities.

4. Applications of Learning Principles

The principles of learning have great value for enriching human life in all spheres of life. All activities and behaviours that make personal, social, and economic life peaceful and pleasurable are learned. Their learning should be psychologically guided. Contemporary psychologists have developed techniques and procedures based on the principles of classical and operant conditioning, social learning, verbal learning, concept learning, and skill learning for improving many aspects of life. We can have a glimpse of the applications of learning principles in four areas, i.e. **organisations, in treatment of maladjusted behaviours, in rearing children, and school learning.**

In organisations like automobile industry, business offices, schools etc., a number of problems such as absenteeism, frequent medical leave, indiscipline, and lack of proper skills pose serious problems. Applying the principles of learning may solve these problems. To increase attendance and reduce absenteeism, an interesting device is used in some organisations. At the end of every third month, name slips of employees, not being absent on a single working day are placed in a drum. Four to five per cent of the names are randomly drawn and they are given attractive rewards for not being absent on a single working day. Such rewards have been found to reduce absenteeism. To increase the number of employees, who have not gone on medical

leave for full one year, various benefits are given. Such partial rewards reduce the incidence of medical leave. With a view to improving discipline, managers start functioning as models for employees, or employees are placed under such model managers.

Based on the principles of learning, a number of therapeutic procedures have been developed to modify maladaptive and socially incapacitating habits and behaviours. In these procedures, the principle of extinction is employed. In the case of those children and adults who exhibit irrational and unfounded fear with accompanying avoidance behaviour, implosive therapy and flooding are used.

Implosive therapy starts with the person imagining their most feared form of contact with the feared object, accompanied by vivid verbal descriptions by the therapist. The therapist functions as a coach.

On the other hand, flooding is exposure that takes place in vivo (e.g., with an actual feared object) and is considered to be the most effective of all treatments for fear.

To help those suffering from excessive anxieties and fears, the technique of systematic desensitisation is used. It is a form of behaviour therapy used to reduce phobic patients' anxiety responses through counterconditioning, i.e. an attempt to reverse the process of classical conditioning by associating the crucial stimulus with a new conditioned response.

In order to eliminate habits that are undesirable and injurious for health and happiness, aversion therapy is used. The therapist arranges things in such a way that occurrence of maladaptive habits generates painful experiences and to avoid them clients learn to give them up. For example, alcohol is paired with an emetic drug (which induces severe nausea and vomiting) so that nausea and vomiting become a conditioned response to alcohol.

Modelling and systematic use of reinforcement for shaping and developing competence are extensively used.

Persons suffering from excessive shyness and having difficulties in interpersonal interactions are subjected to assertive learning. This therapy is also based on the principles of learning.

There are persons who lose mental peace with accelerated rate of breathing, loss of appetite, and rise in blood pressure at the slightest provocation. In such cases psychotherapists give biofeedback treatment. This technique is based on the interaction between classical and instrumental conditioning. In biofeedback, a bodily function (such as heart rate or blood pressure) is monitored and information about the function is fed back to the person to facilitate

improved control of the physiological process. You will read in detail about these therapies later.

The principles of learning are widely used in teaching. Educational objectives are decided after analysing the instructional tasks and fitting them into various types of learning such as S-S or S-R, verbal, observational, and skill learning. Students are told what they have to learn and appropriate practice conditions are provided. Students are made active participants in the acquisition of information, meaning, and correct responses. Teachers act as models and mentors for students to emulate them with a view to promote appropriate social behaviours and personal habits. Students are provided ample opportunities for practice as they are required to do homework. Skills are analysed as S-R chains and students are allowed to learn skills practically.

The principles of learning are best applied in child rearing, provided both the parents are aware of the principles of learning. By using the classical conditioning procedure children are made to learn necessary signs of danger and safety. The behaviour of children can easily be modified and shaped through the use of operant conditioning procedure. By using rewards judiciously parents can make children enthusiastic learners. As models and mentors, parents make children socially skilful, duty oriented and resourceful.

Summary

- Factors facilitating learning include motivation and preparedness of the organism.
- Learning style refers to the way in which each learner begins to concentrate on, process, and retain new and difficult information.
- Learning disabilities (e.g., reading, writing) restrict learning in people. They are hyperactive, lack sense of time, and eye-hand coordination, etc.
- The principles of learning are applied in organisations, treatment of maladjusted reactions, child rearing, and school learning.