**Lecture 3: The Psychology of Learning**

**1. An Overview of Learning**

Learning is a necessary activity for living organisms. It enables them to identify what things in the environment are related and how their own actions affect and are affected by the environment. Such learning enables the organism to make predictions about future events and to use the environment to meet its own needs.

**1.1. What is Learning?**

While there is no complete agreement between psychologists about the details of learning processes, most of them accept at least the idea that learning occurs whenever one adopts new or modifies existing behaviour patterns in a way which has some influence on future performance of attitudes. Indeed, learning is usually defined as the process leading to *a relatively permanent change in behaviour, thoughts and feelings of an organism (human or animal) as a result of experience.*

**1. 2. Why do psychologists study Learning?**

 Psychologists have always been interested in learning not just as a matter of curiosity-though the latter was the initial drive and cause of many important psychological advances- but with the expectation of gaining important practical applications. This expectation rests on the assumption that behaviour is at least partially lawful, and that knowledge of these laws would increase our capacity to control behaviour.

**1.3. Principles of learning**

 There are important principles that help explaining how learning occurs effectively. Some of these most important principles of learning are as follows:

* Individuals learn best when they are physically, mentally, and emotionally ready to learn.
* Students learn best and retain information longer when they have meaningful practice and exercise
* Learning is strengthened when accompanied by a pleasant or satisfying feeling, and that learning is weakened when associated with an unpleasant feeling.
* Things learned first create a strong impression in the mind that is difficult to erase.
* Things most recently learned are best remembered.
* The principle of intensity implies that a student will learn more from the real thing than from a substitute.
* Individuals must have some abilities and skills that may help them to learn.
* Things freely learned are best learned - the greater the freedom enjoyed by individuals, the higher the intellectual and moral advancement.

**1.4. Factors influencing learning**

Some of the factors that affect learning are the following.

**1. Motivation:** The learner’s motivation matters the effectiveness of learning. The stronger and clearer the motives for learning, the greater are the effort to learn. When the motives of learning are high, the learner becomes enthusiastic.

**2. Maturation:** Neuro-muscular coordination is important for learning a given task. Example, The child has to be mature before she/he is able to learn.

**3. Health condition of the learner:** The learner should be in a good health status to learn. Example**-** Sensory defects, malnutrition, toxic conditions of the body, loss of sleep and fatigue hinder effective learning.

**4. Psychological wellbeing of the learner:** individual’s psychological states like worries, fears, feelings of loneliness and inferiority hinders learning. Whereas self-respect, self-reliance, and self-confidence are necessary for effective learning.

**5. Good working conditions –** absence or presence of fresh air, light, comfortable surroundings, moderate temperature, absence of distractions like noise and learning aids determine learning effectiveness.

**6. Background experiences:** having background experiences affect effectiveness of learning. All related facts and understandings from a previously learned course should be brought to new learning.

**7. Length of the working period:** Learning periods should neither be too short nor too long. Long learning time sets fatigue and reduces effectiveness in learning. Short learning time doesnot allow adequate practice needed to master a learning task.

**8. Massed and distributed learning:** Learning that spreads across time with reasonable time gaps brings better results compared with crammed learning that occurs at once or within short span of time.

**2. Theories of Learning**

**2.1.Behavioural Theory of Learning**

Behavioural theory of learning believes that learning occurs as a result of stimulus-response associations. Behavioural theories emphasize observable behaviours, seek laws to govern all organisms, and provide explanations which focus on consequences. Behaviourists also differ among themselves with respect to their views about the role of reinforcement in learning. There are two major behavioural theories of learning. They are known as classical and operant Conditioning.

**2.1.1. Classical conditioning**

Classical conditioning focuses on the learning of making *involuntary emotional* or *physiological responses to stimuli that normally elicit no response; for example,* fear increases heartbeat, salivation or sweating at the sight of a hyena. Through the process of classical conditioning, humans and animals can be trained to act involuntarily to a stimulus that previously had no effect - or a very different effect - on them. The stimulus comes to elicit, modify the behaviour of the learners in such a way as the responses originally connected with a particular stimulus comes to be aroused by a different stimulus.

 Classical Conditioning, was actually discovered accidentally by Ivan Pavlov (1849-1936). Pavlov was a Russian physiologist who discovered this phenomenon while doing research on digestion. His research was aimed at better understanding the digestive patterns in dogs. In 1904, he won the Nobel Prize for his work on digestion, testimony to his contribution to that field. Yet, Pavlov is best remembered not for his physiological research, but for his experiments on basic learning processes.

**2.1.2. Operant conditioning**

***Operant conditioning*** is learning in which a voluntary response is strengthened or weakened, depending on its favorable or unfavorable consequences. When we say that a response has been strengthened or weakened, we mean that it has been made more or less likely to recur regularly. An emphasis on environmental consequences is at the heart of *Operant Conditioning* (also called *Instrumental Conditioning*). In operant conditioning, the organism's response operates or produces effects on the environment. These effects, in turn, influence, whether the response will occur again.

Unlike classical conditioning, in which the original behaviors are the natural, biological responses to the presence of a stimulus such as food, water, or pain, operant conditioning applies to voluntary responses, which an organism performs deliberately to produce a desirable outcome. The term *operant* emphasizes this point: The organism *operates* on its environment to produce a desirable result. Operant conditioning is at work when we learn that toiling industriously can bring about praise or that studying hard results in good grades.

Besides, B.F Skinner, the very renowned proponent of operant conditioning, argued that to understand behaviour we should focus on the external causes of an action and the action’s consequences. To explain behaviour, he said, we should look outside the individual, not inside.

In Skinner’s analysis, a response (―operant) can lead to three types of consequences:

**A neutral Consequence** that does not alter the response.

**A reinforcement** that strengthens the response or makes it more likely to recur. A reinforcer is any event that increases the probability that the behaviour that precedes it will be repeated.

**Punishment- is a stimulus** that weakens the response or makes it less likely to recur.

**2.2. Social Learning Theory**

 According to psychologist Albert Bandura, a major part of human learning consists of observational learning, which is learning by watching the behaviour of another person, or *model*. Because of its reliance on observation of others—a social phenomenon—the perspective taken by Bandura is often referred to as a *social cognitive* approach to learning (Bandura, 1999, 2004).

 Bandura identifies three forms of reinforcement that can encourage observational learning. First, the observer may reproduce the behaviours of the model and receive *direct reinforcement*. The reinforcement need not be direct - it may be *vicarious reinforcement* as well. The observer may simply see others reinforced for a particular behaviour and then increase his or her production of that behaviour. The final form of reinforcement is *self-reinforcement*, or controlling your reinforcers. This sort of reinforcement is important for both students and teachers. Teachers want their students to improve not because it leads to external rewards but because the students value and enjoy their growing competence.

 But social cognitive theorists believe that in human beings, observational learning cannot be fully understood without taking into account the thought processes of the learner. They emphasize the knowledge that results when a person sees a model- behaving in certain ways and experiencing the consequences. Many years ago, Albert Bandura and his colleagues showed just how important observational learning is, especially for children who are learning the rules of social behaviour.

**2.3. Cognitive Learning Theory**

Social scientists argued that most human learning is acquired by observing other people in social context, rather than through standard conditioning procedures. By the 1960s and 1970s, social learning theory was full bloom, and a new element had been added: the human capacity for higher level of cognitive processing. Cognitive psychologists emphasise the role of the brain (the internal processes including perception and attitudes) and the cognitive structures which man might acquire from experience and which modify his present behaviour. They insist on the thought process behind behaviour; changes in behaviour are observed but only as an indicator to what is going on in the head of the learner.Cognitive learning may take two forms:

**1.Latent learning:**It is learning that occurs but is not evident in behaviour until later, when conditions for its appearance are favourable.

**2.Insight learning (gestalt learning or perceptual learning):** It is a cognitive process whereby we reorganize our perception of a problem. It doesn’t depend on conditioning of particular behaviours for its occurrence. In a typical insight situation where a problem is posed, a period follows during which no apparent progress is made, and then the solution comes suddenly. What has been learned in insight learning can also be applied easily to other similar situations.