UNIT-3
MOTIVATION AND LEARNING

What Is Motivation?

Motivation is the process that initiates, guides, and maintains goal-oriented behaviors. It is what causes you to act, whether it is getting a glass of water to reduce thirst or reading a book to gain knowledge. Motivation involves the biological, emotional, social, and cognitive forces that activate behavior. In everyday usage, the term "motivation" is frequently used to describe *why* a person does something. It is the driving force behind human actions.

Meaning

Motivation is an important factor which encourages persons to give their best performance and help in reaching enterprise goals. A strong positive motivation will enable the increased output of employees but a negative motivation will reduce their performance. A key element in personnel management is motivation.

According to Likert, "It is the core of management which shows that every human being gives him a sense of worth in face-to face groups which are most important to him. A supervisor should strive to treat individuals with dignity and recognition of their personal worth."

Definition
Berelson and Steiner
"A motive is an inner state that energizes, activates, or moves and directs or channels behaviour goals."

Lillis
"It is the stimulation of any emotion or desire operating upon one's will and promoting or driving it to action."

Dubin
"Motivation is the complex of forces starting and keeping a person at work

in an organization."

Vance
"Motivation implies any emotion or desire which so conditions one's will that the individual is properly led into action." Draw diagrams for theories.Surf and choose simple diagrams

Needs Theory of Motivation-Maslow's Theory of Motivation

Maslow's hierarchy of needs theory argues that motivation is the result of a person's attempt at meeting five basic needs. This lesson explores Maslow's hierarchy of needs: physiological, safety, social, esteem, and self-actualization.

Effectively motivating employees has long been one of management's most important and challenging duties. **Motivation** refers to the psychological processes that stimulate excitement and persistence of voluntary actions aimed at some goal. Because motivation can be highly individualized, managers use a wide range of techniques to keep their employees motivated and happy. Therefore, it is essential for managers to understand the psychological processes involved in motivation so that they can effectively direct employees towards organizational goals.

Needs theories attempt to identify internal factors that motivate an individual's behavior and are based on the premise that people are motivated by unfulfilled needs. For example, if you were dissatisfied with living in your parents' basement at age 40, you might go out and find your own apartment. In doing so, you will fulfill the need for privacy, independence and the ability to bring a date home without having to explain why you still live with your parents. **Needs** are psychological or physiological insufficiencies that provoke some type of behavioral response. The needs a person has can range from weak to strong and can vary based on environmental factors, time and place.

Maslow's Hierarchy of Needs Theory

One of the most popular needs theories is **Abraham Maslow's hierarchy of**

needs theory. Maslow proposed that motivation is the result of a person's attempt at fulfilling five basic needs: physiological, safety, social, esteem and self-actualization. According to Maslow, these needs can create internal pressures that can influence a person's behavior.

Physiological needs are those needs required for human survival such as air, food, water, shelter, clothing and sleep. As a manager, you can account for the physiological needs of your employees by providing comfortable working conditions, reasonable work hours and the necessary breaks to use the bathroom and eat and/or drink.

Safety needs include those needs that provide a person with a sense of security and well-being. Personal security, financial security, good health and protection from accidents, harm and their adverse effects are all included in safety needs. As a manager, you can account for the safety needs of your employees by providing safe working conditions, secure compensation (such as a salary) and job security, which is especially important in a bad economy.

Social needs, also called **love and belonging**, refer to the need to feel a sense of belonging and acceptance. Social needs are important to humans so that they do not feel alone, isolated and depressed. Friendships, family and intimacy all work to fulfill social needs. As a manager, you can account for the social needs of your employees by making sure each of your employees know one another, encouraging cooperative teamwork, being an accessible and kind supervisor and promoting a good work-life balance.

Esteem needs refer to the need for self-esteem and respect, with self-respect being slightly more important than gaining respect and admiration from others. As a manager, you can account for the esteem needs of your employees by offering praise and recognition when the employee does well, and offering promotions and additional responsibility to reflect your belief

that they are a valued employee.

Self-actualization needs describe a person's need to reach his or her full potential. The need to become what one is capable of is something that is highly personal. While I might have the need to be a good parent, you might have the need to hold an executive-level position within your organization. Because this need is individualized, as a manager, you can account for this need by providing challenging work, inviting employees to participate in decision-making and giving them flexibility and autonomy in their jobs.

As the name of the theory indicates, Maslow believed that these needs exist in a hierarchical order. This **progression principle** suggests that lower-level needs must be met before higher-level needs. The **deficit principle** claims that once a need is satisfied, it is no longer a motivator because an individual will take action only to satisfy unmet needs. If you look at this pyramid you can see how Maslow's needs are organized with basic physiological needs, such as air, food, water and sleep, at the bottom and the idea of self-actualization, or when a person reaches the full potential in life, at the top. Again, according to Maslow, before a person can take action to satisfy a need at any level on this pyramid the needs below it must already be satisfied. To better understand how Maslow's hierarchy works, let's take a look at the following example.

LEVEL OF ASPIRATION

The level at which a person sets his significant goals; the level of performance to which he aspires. An individual's aspiration level has an important bearing on his personality and adjustment. It is a basic component of his self-image, the way he appears in his own eyes. Generally speaking, most normal individuals have been found to set their significant goals just a little higher than they are sure of attaining.

There may be an element of self-flattery in this tendency, but it is considered healthy since it is a sign of self acceptance and self-confidence. Relatively high goals also act as a motivating force, since they give us something to reach for. Nevertheless, the level must remain within reasonable limits, as Coleman has pointed out: "Well- adjusted people tend

to have a reasonably accurate evaluation of themselves in relation to their world and hence a fairly realistic level of aspiration. Maladjusted people, on the other hand, tend to be unrealistic—to set their aspirations either too high or too low—leading to inevitable failure or to wasted opportunities and, in either case, to unhappiness." (Coleman, 1964).Level of aspiration is a universal feature of personality, but it appears to be particularly relevant in a society like our own in which the pressure to achieve is so great and feelings of success and failure so crucial. Too often parents set goals for their children on the basis of their own ambitions, with little regard to the young person's own capabilities or realistic appraisal of himself.

They also tend to be over influenced by comparisons with other people's children, or interpret too rigidly the "growth gradients" they find in textbooks. Some parents develop feelings of rejection toward their children when they are not measuring up even during infancy or early childhood, and in some environments it is not unusual for a father or mother to warn a third- grader that he won't get into a "good" college unless he studies harder.

If the child continues to fall even slightly behind, such parents apply still greater pressure and run the risk of inflicting severe psychological damage on him. Many children cannot do well under constant pressure, and some develop an intense feeling of failure which leads them to set unrealistically low goals for themselves throughout life. Experiments have thrown a good deal of additional light on aspiration level. Lewin et al. (1944) have shown that a history of repeated success leads to an increased level of aspiration: the more we accomplish, the higher our goals. Experiences of failure, on the other hand, have more complex effects.

Infrequent failures tend either to lower the aspiration level or to cause it to rise less rapidly than under conditions of repeated success. Continuous failure motivates the individual either to set his goals so low that success is guaranteed, or so high that his inability to achieve them does not produce a feeling of failure. In either case, the person is setting up a shield

against self exposure, and is deceiving himself about his abilities in order to protect his ego.

This situation can usually be prevented if parents and teachers are careful to give children tasks that allow them a distinct possibility of success. Such tasks should be challenging without pushing them beyond their capabilities. An approach of this kind helps them establish a realistic level of aspiration that will carry over to adulthood. Other studies have shown that group standards have a significant effect on individual levels of aspiration.

In one experiment, several groups of college students worked on simple arithmetic problems. The time it took each group to finish a page was publicly announced, and directly afterward each student privately recorded the score he expected to make on the next test—that is, his level of aspiration.

It was found that these private levels were influenced by the group's performance. Students who scored above the group average tended to lower their estimates; those who scored below average expected to do better. They were apparently exhibiting a tendency to conform, or at least a "safety in numbers" psychology. Another important fact is that we carefully select the groups with which we compare ourselves.

A good golfer chooses people who shoot in the seventies or eighties as his "reference group"; a duffer compares himself with people who shoot well over a hundred. To test this idea, college students were given intelligence test problems and were later told whether their scores were above or below those of high school, college, or graduate students. Each subject was then asked to estimate his score on a subsequent test.

It was found that students who found that their scores were below those of high school students raised their level of aspiration, while those who scored higher than the graduate students lowered their estimates most

(Festinger, 1942). These results are further evidence not only of a tendency to conform to one's own group, but also to be influenced by the factor of prestige.

LEARNING THEORIES

Learning as a process focuses on what happens when the learning takes place. Explanations of what happens constitute learning theories. A learning theory is an attempt to describe how people and animals learn; thereby helping us understands the inherently complex process of learning. Learning theories have two chief values according to Hill (2002). One is in providing us with vocabulary and a conceptual framework for interpreting the examples of learning that we observe. The other is in suggesting where to look for solutions to practical problems. The theories do not give us solutions, but they do direct our attention to those variables that are crucial in finding solutions.

The three main categories or philosophical frameworks under which learning theories falls are behavioral, cognitive, and constructivism. Behaviorism focuses only on the objectively observable aspects of learning. Cognitive theories look beyond behavior to explain brain-based learning. In addition, constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts.

We will discuss the behavioral theories under two broad categories:

A. *S-R (Stimulus-Response) theory with reinforcement*

E.L Thorndike- Trial and Error theory.

B.F Skinner- Operant Conditioning

B. *S-R (Stimulus-Response) theory without reinforcement*

Pavlov- Classical Conditioning

S-R (STIMULUS-RESPONSE) THEORY WITH REINFORCEMENT

A) E.L Thorndike- Trial and Error Theory of Learning:

Edward Lee Thorndike (1874-1949) was the first American

psychologist who put forward the Trial and Error Theory of learning. According to Thorndike, all learning takes place because of formation of bond or connection between stimulus and response.

He further says that learning takes place through a process of approximation and correction. A person makes a number of trials, some responses do not give satisfaction to the individual but he goes on making further trials until he gets satisfactory responses.

Thorndike conducted a number of experiments on animals to explain the process of learning. His most widely quoted experiment is with a cat placed in a puzzle box. Thorndike put a hungry cat in a puzzle box. The box had one door, which could be opened by manipulating a latch of the door. A fish was placed outside the box. The cat being hungry had the motivation of eating fish outside the box. However, the obstacle was the latch on the door. The cat made random movements inside the box indicating trial and error type of behavior biting at the box, scratching the box, walking around, pulling and jumping etc. to come out to get the food. Now in the course of her movements, the latch was manipulated accidently and the cat came out to get the food. Over a series of successive trials, the cat took shorter and shorter time, committed less number of errors, and was in a position to manipulate the latch as soon as it was put in the box and learnt the art of opening the door.

Thorndike concluded that it was only after many random trials that the cat was able to hit upon the solutions. He named it as Trial and Error Learning. An analysis of the learning behavior of the cat in the box shows that besides trial and error the principles of goal, motivation, explanation and reinforcement are involved in the process of learning by Trial and Error.

Laws of Learning

Based on Trial and Error Learning Theory, Thorndike gave certain laws of Learning. We shall discuss three fundamental Laws of Learning in this section. These laws are:

1. Law of Readiness

This law refers to the fact that learning takes place only when the learner is prepared to learn. No amount of efforts can make the child learn if the child is not ready to learn. The dictum that 'you can lead a horse to

the pond but you can't make it drink water unless it feels thirsty' goes very well with this law. In other words, if the child is ready to learn, he/she learns more quickly, effectively and with greater satisfaction than if he/she is not ready to learn. In the words of Thorndike the three stages of this Law of Readiness are:

• For a conduction unit ready to conduct, to conduct is satisfying.

• For a conduction unit ready to conduct, not to conduct is annoying.

• For a conduction unit not ready to conduct, to conduct is annoying.

Thus, the Law of Readiness means mental preparation for action. It is not to force the child to learn if he is not ready. Learning failures are the result of forcing the learner to learn when he is not ready to learn something.

Educational Implications of Law of Readiness:

The law draws the attention of teacher to the motivation of the child. The teacher must consider the psycho-biological readiness of the students to ensure successful learning experiences. Curriculum / Learning experiences should be according to the mental level of maturity of the child. If this is not so, there will be poor comprehension and readiness may vanish.

2. Law of Exercise

This law explains the role of practice in learning. According to this law, learning becomes efficient through practice or exercise. The dictum 'Practice makes a man perfect' goes very well with this law. This law is further split into two parts — Law of use and Law of disuse. The law of use means that a connection between a stimulus and response is strengthened by its occurrence, its exercise or its use. In other words, the use of any response strengthens it, and makes it more prompt, easy and certain.

Regarding the law of disuse, it is said that when a modifiable connection is not made between a stimulus and a response over a length of time, the strength of that connection is decreased. This means that any act that is not practiced for some time gradually decays. Anything that is not used exercised or practiced for a certain period tends to be forgotten or becomes weak in strength, efficiency and promptness.

Educational Implications

Exercise occupies an important place in learning. Teacher must repeat, give sufficient drill in some subjects like mathematics, drawing, music or vocabulary for fixing material in the minds of the students. Thorndike later revised this law of exercise and accordingly it is accepted that practice does bring improvement in learning but it in itself is not sufficient. Always practice must be followed by some reward or satisfaction to the learner. The learner must be motivated to learn.

3. Law of Effect

This is most important of Thorndike's laws, which state that when a connection between stimulus and response is accompanied by satisfying state, its strength is increased. On the other hand, when a connection is accompanied by an annoying state of affairs, its strength is reduced or weakened. The saying 'nothing succeeds like success' goes very well with this law. In other words, the responses that produce satisfaction or comfort for the learner are strengthened and responses that produce annoyance or discomfort for the learner are weakened.

Thorndike revised this law in 1930 and according to this revision, he stated that reward strengthened the response but punishment did not always weaken the response. Then he placed more emphasis on the reward aspect than on the punishment aspect of Law of Effect.

Educational Implications

This law signifies the use of reinforcement or feedback in learning. This implies that learning trials must be associated with satisfying consequences. The teacher can use rewards to strengthen certain responses and punishment to weaken others.

However, the use of reward is more desirable than the use of punishment in school learning. The teacher for motivating the students for learning situations can exploit the use of reward.

B) B.F.Skinners- Operant Conditioning

Operant conditioning (sometimes referred to as *instrumental conditioning*) is a method of learning that occurs through rewards and punishments for behavior. Through operant conditioning, an association is made between a behavior and a consequence for that behavior.

Behaviorist B.F. Skinner coined the term operant conditioning, which

is why it is also referred as Skinnerian conditioning. As a behaviorist, Skinner believed that internal thoughts and motivations could not be used to explain behavior.

Instead, he suggested, we should look only at the external, observable causes of human behavior. Skinner used the term *operant* to refer to any "active behavior that operates upon the environment to generate consequences" (1953). In other words, Skinner's theory explained how we acquire the range of learned behaviors we exhibit each and every day.

Skinner is regarded as the father of Operant Conditioning, but his work was based on Thorndike's law of effect. Skinner introduced a new term into the Law of Effect - Reinforcement. Behavior that is reinforced tends to be repeated (i.e. strengthened); behavior that is not reinforced tends to die out-or be extinguished (i.e. weakened).

Skinner studied operant conditioning by conducting experiments using animals, which he placed in a "*Skinner Box*" which was similar to Thorndike's puzzle box.

The Skinner box involved placing an animal (such as a rat or pigeon) into a sealed box with a lever that would release food when pressed. If food was released every time the rat pressed the lever, it would press it more and more because it learnt that doing so gives it food. Lever pressing is described as an operant behavior, because it is an action that results in a consequence. In other words, it operates on the environment and changes it in some way.

The food that is released as a result of pressing the lever is known as a reinforcer, because it causes the operant behavior (lever pressing) to increase. Food could also be described as a conditioned stimulus because it causes an effect to occur.

Note: There is an important difference between a reward and a reinforcer in operant conditioning.

• A reward is something, which has value to the person giving the reward, but may not necessarily be of value to the person receiving the reward.

• A reinforce is something, which benefits the person receiving it, and so results in an increase of a certain type of behavior.

Skinner identified three types of responses or operant that can follow

behavior.

I.   **Neutral operants**: Responses from the environment that neither increase nor decrease the probability of a behavior being repeated.

II. Reinforcers are any event that strengthens or increases the behavior it follows. There are two kinds of reinforcers.

1. **Positive reinforcers** are favorable events or outcomes that are presented after the behavior. In situations that reflect positive reinforcement, a response or behavior is strengthened by the addition of something, such as praise or a direct reward.

2. **Negative reinforcers** involve the removal of an unfavorable events or outcomes after the display of a behavior. In these situations, a response is strengthened by the removal of something considered unpleasant. In both of these cases of reinforcement, the behavior **increases.**

III.Punishment is the presentation of an adverse event or outcome that causes a decrease in the behavior it follows. Punishment weakens behavior. There are two kinds of punishment:

1. **Positive punishment** sometimes referred to as punishment by application, involves the presentation of an unfavorable event or outcome in order to weaken the response it follows.

2. **Negative punishment**, also known as punishment by removal, occurs when a favorable event or outcome is removed after a behavior occurs. In both of these cases of punishment, the behavior **decreases.**

Schedules of Reinforcement:

Intermittent reinforcement - reinforcement is given only part of the times the animal gives the desired response.

Continuous reinforcement - reinforcement is given every time the animal gives the desired response.

Ratio reinforcement - a pre-determined proportion of responses will be reinforced.

Fixed ratio reinforcement - reinforcement is given on a regular ratio, such as every fifth time the desired behavior is produced.

Variable (random) fixed reinforcement- reinforcement is given for a

predetermined proportion of responses, but randomly instead of on a fixed schedule.

Interval reinforcement- reinforcement is given after a predetermined period of time.

Fixed interval reinforcement - reinforcement is given on a regular schedule, such as every five minutes.

Variable interval reinforcement - reinforcement is given after random amounts of time have passed.

In animal studies, Skinner found that continuous reinforcement in the early stages of training seems to increase the rate of learning. Later, intermittent reinforcement keeps the response going longer and slows extinction.

Skinner specifically addressed the applications of behaviorism and operant conditioning to educational practice. He believed that the goal of education was to train learners in survival skills for self and society. The role of the teacher was to reinforce behaviors that contributed to survival skills, and extinguish behaviors that did not. Behaviorist views have shaped much of contemporary education in children and adult learning.

Implication of the theory of operant conditioning:

1. **Conditioning study behavior**: Teaching is the arrangement of contingencies of reinforcement, which expedite learning. For effective teaching teacher should arranged effective contingencies of reinforcement. Example: For Self learning of a student teacher should reinforce student behavior through variety of incentives such as prize, medal, smile, praise, affectionate patting on the back or by giving higher marks.

2. **Conditioning and classroom behavior**: During learning process child acquire unpleasant experiences also. This unpleasantness becomes conditioned to the teacher, subject and the classroom and learner dislikes the subject and a teacher.

Suitable behavioral contingencies, atmosphere of recognition, acceptance, affection and esteem helps child in approaching teacher and the subject. If student is not serious in study, teacher make use of negative reinforcement like showing negligence, criticizing student etc. but if student is serious in study, teacher make use of positive reinforcement like

prize, medal, praise and smile.

3. Managing Problem Behavior: Two types of behavior are seen in the classroom via undesired behavior and problematic behavior. Operant conditioning is a behavior therapy technique that shape students behavior. For this teacher should admit positive contingencies like praise, encouragement etc. for learning. One should not admit negative contingencies. Example punishment (student will run away from the dull and dreary classes – escape stimulation.

4. Dealing with anxieties through conditioning: Through conditioning fear, anxieties, prejudices, attitudes, perceptual meaning develops. Examples of anxiety are signals on the road, siren blown during wartime, child receiving painful injection from a doctor. Anxiety is a generalized fear response. To break the habits of fear, a teacher should use desensitization techniques. Initially teacher should provide very weak form of conditioned stimulus. Gradually the strength of stimulus should be increased.

5. Conditioning group behavior: Conditioning makes entire group learn and complete change in behavior is seen due to reinforcement. It breaks undesired and unsocial behavior too.

Example: Putting questions or telling lie to teachers will make teachers annoyed in such circumstances students learn to keep mum in the class. Asking questions, active participation in class discussion will make the teacher feel happy – interaction will increase and teaching learning process becomes more effective.

6. Conditioning and Cognitive Processes: Reinforcement is given in different form, for the progress of knowledge and in the feedback form. When response is correct, positive reinforcement is given. Example: A student who stands first in the class in the month of January is rewarded in the month of December. To overcome this Programme instruction is used. In this subject matter is broken down into steps. Organizing in logical sequence helps in learning. Each step is built upon the preceding step. Progress is seen in the process of learning. Immediate reinforcement is given at each step.

7. Shaping Complex Behavior: Complex behavior exists in form of a chain of small behavior. Control is required for such kind of behavior. This extended form of learning is shaping technique. Smallest Behavior is controlled at initial stage. On behalf of different contingencies, next order

of chain of behaviors is controlled. Example: Vocabulary in English. Teaching spelling is mainly a process of shaping complex form of behavior.

S-R (STIMULUS-RESPONSE) THEORY WITHOUT REINFORCEMENT

Pavlov- Classical Conditioning (1849-1936)

Classical conditioning is a term used to describe learning which has been acquired through experience. One of the best-known examples of classical conditioning can be found with the Russian psychologist Ivan Pavlov and his experiments on dogs.

In these experiments, Pavlov trained his dogs to salivate when they heard a bell ring. In order to do this he first showed them food, the sight of which caused them to salivate.

Later Pavlov would ring a bell every time he would bring the food out, until eventually, he could get the dogs to salivate just by ringing the bell and without giving the dogs any food.

In this simple but ingenious experiment, Pavlov showed how a reflex (salivation, a natural bodily response) could become conditioned (modified) to an external stimulus (the bell) thereby creating a conditioned reflex/response.

Components Involved In Classical Conditioning

We can gain a better understanding of classical conditioning by looking at the various components involved in his experiment;

• The unconditioned stimulus. *(UCS)*

• The conditioned stimulus. *(CS)*

• The unconditioned reflex/response. *(UCR)*

• The conditioned reflex/response. *(CR)*

So let's look at each of these classical conditioning components in more detail now.

Note: In its strictest definition classical conditioning is described as a previously neutral stimulus which causes a reflex (stimulus means something which causes a physical response).

The Unconditioned Stimulus (food): (UCS)

An unconditioned stimulus is anything, which can evoke a response without prior learning or conditioning.

For example, when a dog eats some food it causes his mouth to salivate. Therefore the food is an unconditioned stimulus, because it causes a reflex response (salivation) automatically and without the dog having to learn how to salivate.

Unconditioned Stimulus– This causes an automatic reflex response.

Conditioned Stimulus (bell): (CS)

The conditioned stimulus is created by learning, and therefore does not create a response without prior conditioning.

For example, when Pavlov rang a bell and caused the dogs to salivate, this was a conditioned stimulus because the dogs learnt to associate the bell with food. If they had not learnt to associate the bell with food, they would not have salivated when the bell was rung.

Conditioned Stimulus– You need to learn first before it creates a response. It is an acquired power to change something.

Unconditioned Reflex/Response (salivation): (UCR)

An unconditioned reflex is anything that happens automatically without you having to think about it, such as your mouth salivating when you eat.

Unconditioned Reflex – Reflex that happens automatically and you did not have to learn how to do it.

Conditioned Reflex (salivation in response to bell): (CR)

A conditioned reflex is a response which you have learnt to associate with something.

For example, the dogs salivated when Pavlov rang a bell, when previously (without conditioning) the bell would not cause the dogs to salivate.

Conditioned Reflex– A conditioned reflex that can evoked in response to a conditioned stimulus.

Basic concepts in classical conditioning:

There are several principles that are associated with classical conditioning, some of these are:

Extinction: a conditioned response will disappear over time when the conditioned stimulus is no longer presented.

Spontaneous recovery: sometimes there is the weak appearance of a previously extinguished response.

Stimulus generalization: this is when individuals respond in this same way to experience stimuli. For example, all fuzzy animals scaring a young child instead of just a fuzzy cat.

Stimulus discrimination: organisms can learn to discriminate between various stimuli.

Higher order conditioning: this is when a neutral stimulus can cause the conditioned response sense if it had been associated with the conditioned stimulus.

Types of classical conditioning

1. **Forward conditioning**: Learning is fastest in forward conditioning. During forward conditioning the onset of the conditioned stimulus (CS) precedes the onset of the unconditioned stimulus (US). Two common forms of forward conditioning are delay and trace conditioning.

2. **Delay conditioning**: In delay, conditioning the conditioned stimulus (CS) is presented and is overlapped by the presentation of the unconditioned stimulus (US).

3. **Trace conditioning**: During trace conditioning, the conditioned stimulus (CS) and US do not overlap. Instead, the conditioned stimulus (CS) is presented, a period is allowed to elapse during which no stimuli are presented, and then the unconditioned stimulus (US) is presented. The stimulus-free period is called the *trace interval*. It may also be called the *conditioning interval*.

4. **Simultaneous conditioning**: During simultaneous conditioning, the conditioned stimulus (CS) and unconditioned stimulus (US) are presented and terminated at the same time.

5. **Backward conditioning**: Backward conditioning occurs when a conditional stimulus (CS) immediately follows an unconditional stimulus (US). Unlike traditional conditioning models, in which the conditional stimulus (CS) precedes the unconditional stimulus (US), the conditional response (CR) tends to be inhibitory. This is because the conditional stimulus (CS) serves as a signal that the unconditional stimulus (US) has ended, rather than a reliable method of predicting the future occurrence of the unconditional stimulus (US).

6. **Temporal conditioning**: The unconditioned stimulus (US) is presented at regularly timed intervals, and CR acquisition is dependent upon correct timing of the interval between unconditioned stimulus (US) presentations. The background, or context, can serve as the conditioned stimulus (CS) in this example.

7. **Unpaired conditioning**: The conditioned stimulus (CS) and unconditioned stimulus (US) are not presented together. Usually they are presented as independent trials that are separated by a variable, or pseudo-random, interval. This procedure is used to study non-associative behavioral responses, such as sensitization.

8. **CS-alone extinction:** The conditioned stimulus (CS) is presented in the absence of the unconditioned stimulus (US). This procedure is usually done after the conditional response (CR) has been acquired through "forward conditioning" training. Eventually, the conditional response (CR) frequency is reduced to pre-training levels. Essentially, the stimulus is presented until habituation occurs.

Implications of Pavlov's Theory to Classroom Situations

1. The theory believed that one must be able to practice and master a task effectively before embarking on another one. This means that a student needs to be able to respond to a particular stimulus (information) before he/she can be associated with a new one.

2. Teachers should know how to motivate their students to learn. They should be versatile with various strategies that can enhance effective participation of the students in the teaching learning activities.

3. Most of the emotional responses can be learned through classical conditioning. A negative or positive response comes through the stimulus being paired with. For example, providing the necessary school material for

primary school pupils will develop good feelings about school and learning in them, while, punishment will discourage them from attending the school.

Conclusion

It is believed that the learners and more importantly the teachers have greatly benefited from all the theories. The teachers should be familiar with this theory and apply it to teaching-learning activities where applicable.

Piaget's Cognitive Development Theory

Piaget's theory of cognitive development is a comprehensive theory about the nature and development of human intelligence. It was originated by the Swiss developmental psychologist Jean Piaget. The theory deals with the nature of knowledge itself and how humans gradually come to acquire, construct, and use it.

Jean Piaget, a Swiss psychologist was particularly concerned with the way thinking develops in children from birth till they become young adults. To understand the nature of this development, Piaget carefully observed the behaviour of his own three kids. He used to present problems to them, observe responses slightly after the situations and again observe their responses. Piaget called this method of exploring development clinical interview. Piaget believed that humans also adapt to their physical and social environments in which they live. The process of adaptation begins since birth.

Piaget saw this adaptation in terms of two basic processes: Assimilation and Accommodation.

Assimilation: It refers to the process by which new objects and events are grasped or incorporated within the scope of existing schemes or structures.

Accommodation: It is the process through which the existing schemes or structure is modified to meet the resistance to straightforward grasping or assimilation of a new object or event.

According to Piaget there are 4 basic elements in development:

1. Maturation.

2. Experience.

3. Social transmission (learning through language, schooling or teaching by parents)

4. Equilibrium. The important concept of Piaget's theory of cognitive development is the fixed progression from one stage to another. Piaget viewed cognitive growth as a progressive change. Growth varies from person to person. Piaget assumed that it follows a fixed sequence.

Stages of cognitive development.

Piaget has identified 4 sequential stages through which every individual progresses in cognitive development. Each stage has an age span with distinctive learning capabilities. This would be helpful in framing curriculum. And understanding of this development sequence is indispensable for parents as well as for teachers because these influences a great deal during infancy, childhood and adolescence. The 4 developmental stages are discussed below

1. Sensory-Motor Stage: This stage begins at birth and lasts till the child is about 2 years old. It is called Sensory-Motor Stage, because children's thinking involves seeing, hearing, moving, touching, testing and so on. This stage marks a transitional stage for a person from a biological to a psychological being. In the first few weeks of life the baby's behaviour consists simply of reflex responses, such as sucking, stepping and grasping. Later the reflex disappears and the baby chooses what and when to grasp. During this period the infants attain the concept of object permanence. This refers to the understanding that objects and events continue to exist even when they cannot directly be seen, heard or touched. Till this kind of understanding is achieved, an object that is out of sight remains out of mind and therefore, becomes non-existent. A second major accomplishment in the Sensory-Motor period is learning to reverse actions. E.g., we give a toy to a child that has ten detachable parts. We detach all parts. Through trial and error, the child gradually learns to attach all the parts of the toy.

2. Pre-Operational Stage (2 to 7 Years): This stage is called Pre-Operational because the children have not yet mastered the ability to perform mental operations. Children's thinking during this stage is governed by what is seen rather than by logical principles. Following are the accomplishments of Pre-Operational Stage:

a. Semantic function: During this stage the child develops the ability

to think using symbols and signs. Symbols represent something or someone else; for example, a doll may symbolize a baby, child or an adult.

b. Egocentrism: This stage is characterized by egocentrism. Children believe that their way of thinking is the only way to think.

c. Decentering: A pre-operational child has difficulty in seeing more than one dimension or aspects of situation. It is called decentering.

d. Animism: Children tend to refer to inanimate objects as if they have life-like qualities and are capable of actions.

e. Seriation: They lack the ability of classification or grouping objects into categories. f. Conservation. It refers to the understanding that certain properties of an object remain the same despite a change in their appearance.

3. Concrete Operational Stage (7 to 11 years): At this stage a child is concerned with the integration of stability of his cognitive systems. He learns to add, subtract, multiply and divide. He is in a position to classify concrete objects. In short, children develop the abilities of rational thinking but their thinking is tied to concrete objects.

4. Formal Operational Stage (11 & above): This type is characterized by the emergence of logical thinking and reasoning. Other important cognitive attainments during this period are: the ability to think about the hypothetical possibilities and to solve problems through logical deductions and in a systematic manner.

Educational Implications: Piaget's concept of development process of understanding working of the child's mind can be helpful to those who are involved in teaching and other educational practices. He says that children pass through number of stages before the age of 14 years and a lot of care should be taken in child's training and development. Most of the teachers are now in agreement with him that it is waste of time to take those things to children which cannot be experienced through sense organs. When the children form many direct experiences then only they are in a position to understand the abstract ideas and concept. Piaget does not like to looking at education, therefore, the teacher must always make an effort to orient education around the child. The most important function of school is to provide good stimulating environment within the school for the proper development of their mental abilities. The school should provide

good library opportunities for free discussions and community services. The needs of adolescents should be given proper place on the school curriculum.

Constructivist theory – John Dewey

Constructivism

Constructivism is an epistemology, or a theory, used to explain how people know what they know. The basic idea is that problem solving is at the heart of learning, thinking, and development. As people solve problems and discover the consequences of their actions–through reflecting on past and immediate experiences–they construct their own understanding. Learning is thus an active process that requires a change in the learner. This is achieved through the activities the learner engages in, including the consequences of those activities, and through reflection. People only deeply understand what they have constructed.

Constructivism is centered on the idea that human knowledge and learning is actively constructed by the learner, not passively received the environment. Learner is not a blank slate – brings back cultural factors and past experiences to a situation. New information is constructed from prior knowledge. Learners experience things, reflect on their experiences, and construct their own understanding and knowledge of the world.

History of Constructivism

The psychological roots of constructivism began with the developmental work of Jean Piaget (1896–1980), who developed a theory (the theory of genetic epistemology) that analogized the development of the mind to evolutionary biological development and highlighted the adaptive function of cognition. Piaget proposed four stages in human development: the sensorimotor stage, the preoperational stage, the concrete operational stage, and the formal operational stage. For Piaget, the development of

human intellect proceeds through adaptation and organization.

The Russian psychologist Lev Vygotsky's (1896–1934) relevance to constructivism derives from his theories about language, thought, and their mediation by society. Vygotsky held the position that the child gradually internalizes external and social activities, including communication, with more competent others. Although social speech is internalized in adulthood (it becomes thinking), Vygotsky contended that it still preserves its intrinsic collaborative character. In his experiments, Vygotsky studied the difference between the child's reasoning when working independently versus reasoning when working with a more competent person. He devised the notion of the *zone of proximal development* to reflect on the potential of this difference. Vygotsky's findings suggested that learning environments should involve guided interactions that permit children to reflect on inconsistency and to change their conceptions through communication.

Vygotsky and Piaget's theories are often contrasted to each other in terms of individual cognitive constructivism (Piaget) and social constructivism (Vygotsky).

John Dewey and Constructivism

John Dewey was born on October 20, 1859, the third of four sons born to Archibald Sprague Dewey and Lucina Artemesia Rich of Burlington, Vermont. He was arguably the most prominent American intellectual for the first half of the twentieth century. John Dewey was a leading proponent of the American school of thought known as pragmatism, a view that rejected the dualistic epistemology and metaphysics of modern philosophy in favour of a naturalistic approach that viewed knowledge as arising from an active adaptation of the human organism to its environment.

According to him, education depended on action—knowledge and ideas emerge only from a situation in which learners have to draw out experiences that have meaning and importance to them. Dewey argued that human thought is practical problem solving, which proceeds by testing rival hypotheses. These problem-solving experiences occur in a social

context, such as a classroom, where students join together in manipulating materials and observing outcomes.

On this view, inquiry should not be understood as consisting of a mind passively observing the world and drawing from this ideas that if true correspond to reality, but rather as a process which initiates with a check or obstacle to successful human action, proceeds to active manipulation of the environment to test hypotheses, and issues in a re-adaptation of organism to environment that allows once again for human action to proceed.

The central focus of Dewey's philosophical interests throughout his career was what has been traditionally called "epistemology," or the "theory of knowledge." However, he expressly rejected the term "epistemology," preferring the "theory of inquiry" or "experimental logic" as more representative of his own approach.

According to traditional epistemologies thought was believed to exist apart from the world, epistemic ally as the object of immediate awareness, ontologically as the unique aspect of the self. The resulting view makes a mystery of the relevance of thought to the world: if thought constitutes a domain that stands apart from the world, how can its accuracy as an account of the world ever be established?

Unlike traditional approaches in the theory of knowledge, which saw thought as a subjective primitive out of which knowledge was composed, Dewey's approach understood thought genetically, as the product of the interaction between organism and environment, and knowledge as having practical instrumentality in the guidance and control of that interaction. Thus Dewey adopted the term "instrumentalism" as a descriptive appellation for his new approach.

In a similar way, Dewey came to believe that a productive, naturalistic approach to the theory of knowledge must begin with a consideration of the development of knowledge as an adaptive human response to environing conditions aimed at an active restructuring of these conditions.

The implication for the theory of knowledge was clear: the world is not passively perceived and thereby known; active manipulation of the environment is involved integrally in the process of learning from the start.

Dewey first applied this interactive naturalism in an explicit manner to the theory of knowledge in his four introductory essays in *Studies in Logical Theory*. A detailed genetic analysis of the process of inquiry was Dewey's signal contribution to *Studies*. Dewey distinguished three phases of the process.

It begins with the *problematic situation*, a situation where instinctive or habitual responses of the human organism to the environment are inadequate for the continuation of ongoing activity in pursuit of the fulfilment of needs and desires. Dewey stressed in *Studies* and subsequent writings that the uncertainty of the problematic situation is not inherently cognitive, but practical and existential. Cognitive elements enter into the process as a response to precognitive maladjustment. The second phase of the process involves the isolation of the data or subject matter which defines the parameters within which the reconstruction of the initiating situation must be addressed. In the third, reflective phase of the process, the cognitive elements of inquiry (ideas, suppositions, theories, etc.) are entertained as hypothetical solutions to the originating impediment of the problematic situation, the implications of which are pursued in the abstract. The final test of the adequacy of these solutions comes with their employment in action. If a reconstruction of the antecedent situation conducive to fluid activity is achieved, then the solution no longer retains the character of the hypothetical that marks cognitive thought; rather, it becomes a part of the existential circumstances of human life.

Dewey defended this general outline of the process of inquiry throughout his long career, insisting that it was the only proper way to understand the means by which we attain knowledge, whether it be the common sense knowledge that guides the ordinary affairs of our lives, or the sophisticated knowledge arising from scientific inquiry. The latter is only distinguished from the former by the precision of its methods for controlling data, and the refinement of its hypotheses.

Carl Roger's Humanistic theory

Carl Rogers (1902-1987) was a humanistic psychologist. He supported the views of **Maslow** and added; an environment with genuineness, acceptance and empathy is needed for a person to grow. Rogers believed that a person reaches to self-actualization level when they achieve their goals, wishes

and desires at all stages of their life.

Humanistic psychology emphasized the role of an individual in shaping their internal and external world. He was with the view that humans are active and creative people who live in the present and are concerned with only relationships, perceptions and situations in the present. He coined the term actualizing tendency, which refers to a person's basic instinct to succeed at his or her highest possible capacity. Through person-centered counselling and scientific therapy research, Rogers formed his theory of personality development. This personality development theory was formed to highlight free will and human potential for goodness.

Carl Rogers' humanistic personality theory emphasizes the importance of the self-actualizing tendency in forming a self-concept.

Key Points
- Rogers believed that humans are constantly reacting to stimuli with their subjective reality (phenomenal field), which changes continuously. Over time, a person develops a self- concept based on the feedback from this field of reality.
- In the development of self-concept, positive regard is key. Unconditional positive regard is an environment that is free of preconceived notions of value. Conditional positive regard is full of conditions of worth that must be achieved to be considered successful.
- Human beings develop an ideal self and a real self, based on the conditional status of positive regard. How closely one's real self matches up with their ideal self is called congruity.
- Rogers believed that fully functioning people could achieve "the good life," in which they constantly aim to fulfil their potential and allow their personalities to emanate from their experiences.
- Like Maslow's theories, Rogers' were criticized for their lack of empirical evidence in research.

Personality Development and the Self-Concept

Rogers based his theories of personality development on humanistic psychology and theories of subjective experience. He believed that everyone exists in a constantly changing world of experiences that they are at the center of. A person reacts to changes in their phenomenal field,

which includes external objects and people as well as internal thoughts and emotions.
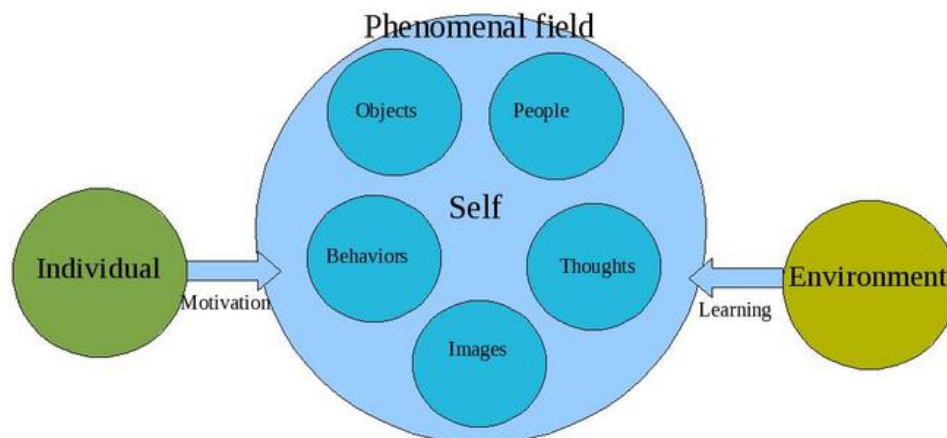
Phenomenal field

The phenomenal field: The phenomenal field refers to a person's subjective reality, which includes external objects and people as well as internal thoughts and emotions. The person's motivations and environments both act on their phenomenal field.

Rogers believed that all behaviour is motivated by self-actualizing tendencies, which drive a person to achieve at their highest level. As a result of their interactions with the environment and others, an individual forms a structure of the self or *self-concept*—an organized, fluid, conceptual pattern of concepts and values related to the self. If a person has a positive self-concept, they tend to feel good about who they are and often see the world as a safe and positive place. If they have a negative self-concept, they may feel unhappy with who they are.

Ideal Self vs. Real Self

Rogers further divided the self into two categories: the ideal self and the real self. The *ideal self* is the person that you would like to be; the *real self* is the person you actually are. Rogers focused on the idea that we need to achieve consistency between these two selves. We experience *congruence* when our thoughts about our real self and ideal self are very similar—in other words, when our self-concept is accurate. High congruence leads to a greater sense of self-worth and a healthy, productive life. Conversely, when there is a great discrepancy between our ideal and actual selves, we experience a state Rogers called *incongruence*, which can lead to maladjustment.

Unconditional Positive Regard

In the development of the self-concept, Rogers elevated the importance of *unconditional positive regard,* or unconditional love. People raised in an environment of unconditional positive regard, in which no preconceived conditions of worth are present, have the opportunity to fully actualize. When people are raised in an environment of *conditional positive regard,* in which worth and love are only given under certain conditions, they must match or achieve those conditions in order to receive the love or positive regard they yearn for. Their ideal self is thereby determined by others based on these conditions, and they are forced to develop outside of their own true actualizing tendency; this contributes to incongruence and a greater gap between the real self and the ideal self.

"The Good Life"

Rogers described life in terms of principles rather than stages of development. These principles exist in fluid processes rather than static states. He claimed that a fully functioning person would continually aim to fulfill his or her potential in each of these processes, achieving what he called "*the good life."* These people would allow personality and self-concept to emanate from experience. He found that fully functioning individuals had several traits or tendencies in common:

1. A growing openness to experience—they move away from defensiveness.
2. An increasingly existential lifestyle—living each moment fully, rather than distorting the moment to fit personality or self-concept.
3. Increasing organismic trust—they trust their own judgment and their ability to choose behaviour that is appropriate for each moment.
4. Freedom of choice—they are not restricted by incongruence and are able to make a wide range of choices more fluently. They believe that they play a role in determining their own behaviour and so feel responsible for their own behaviour.
5. Higher levels of creativity—they will be more creative in the way they adapt to their own circumstances without feeling a need to conform.
6. Reliability and constructiveness—they can be trusted to act constructively. Even aggressive needs will be matched and balanced

by intrinsic goodness in congruent individuals.

7. A rich full life–they will experience joy and pain, love and heartbreak, fear and courage more intensely.

Criticisms of Rogers' Theories

Like Maslow's theories, Rogers' were criticized for their lack of empirical evidence used in research. The holistic approach of humanism allows for a great deal of variation but does not identify enough constant variables to be researched with true accuracy. Psychologists also worry that such an extreme focus on the subjective experience of the individual does little to explain or appreciate the impact of society on personality development

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