

CHAPTER THREE

LEARNING

3.1. Definition

<u>Learning</u> is a relatively permanent change in behavior, or behavior potential that occurs as the result of practice or experience. Although you might think of learning in terms of what you need *t*o do before an upcoming exam, the knowledge that you take away from your classes, or new skills that you acquire through practice, these changes represent only one component of learning. In fact, learning is a broad topic that is used to explain not only how we acquire new knowledge and behavior but also a wide variety of other psychological processes including the development of both appropriate and inappropriate social behaviors.

Learning is perhaps the most important human capacity. Learning allows us to create effective lives by being able to respond to changes. We learn to avoid touching hot stoves, to find our way home from school, and to remember which people have helped us in the past and which people have been unkind. Without the ability to learn from our experiences, our lives would be remarkably dangerous and inefficient.

The principles of learning can also be used to explain a wide variety of social interactions, including social dilemmas in which people make important, and often selfish, decisions about how to behave by calculating the costs and benefits of different outcomes.

3.2. Factors that affect learning

- Arousal/motivation
- Reinforcement
- Repetition

3.3. Ways/Methods of Learning

- Trial and error/experimentation
- Observation
- Instruction

3.4. Learning Outcomes

- Cognitive domain - Knowledge
- Affective domain - Attitude

- Psychomotor domain - Skill

3.5. Theories of Learning

3.5.1. Classical Conditioning

In the early part of the 20th century, Russian physiologist Ivan Pavlov (1849–1936) was studying the digestive system of dogs when he noticed an interesting behavioral phenomenon: The dogs began to salivate when the lab technicians who normally fed them entered the room, even though the dogs had not yet received any food. Pavlov realized that the dogs were salivating because they knew that they were about to be fed; the dogs had begun to associate the arrival of the technicians with the food that soon followed their appearance in the room.

With his team of researchers, Pavlov began studying this process in more detail. He conducted a series of experiments in which, over a number of trials, dogs were exposed to a sound immediately before receiving food. He systematically controlled the onset of the sound and the timing of the delivery of the food, and recorded the amount of the dog salivation. Initially the dogs salivated only when they saw or smelled the food, but after several pairings of the sound and the food, the dogs began to salivate as soon as they heard the sound. The animals had learned to associate the sound with the food that followed. Pavlov had identified a fundamental associative learning process called *classical conditioning*.

Classical conditioning refers to ***learning that occurs when a neutral stimulus (e.g., a tone) becomes associated with a stimulus (e.g., food) that naturally produces a behavior.*** After the association is learned, the previously neutral stimulus is sufficient to produce the behavior.

Psychologists use specific terms to identify the stimuli and the responses in classical conditioning.

1. Unconditioned Stimulus: A stimulus that elicits a reflexive response in the absence of learning.

2. Conditioned Stimulus: An initially neutral stimulus that comes to elicit a conditioned response after being associated with an unconditioned stimulus

3. Unconditioned Response: A reflexive response elicited by a stimulus in the absence of learning.

4. Conditioned Response: A response that is elicited by a conditioned stimulus; it occurs after the conditioned stimulus is associated with an unconditioned stimulus.

3.5.1.1. Features/Phenomena of Classical Conditioning

📖 **Acquisition**

- A neutral stimulus that is consistently followed by an unconditioned stimulus will become a conditioned stimulus.

📖 **Extinction**

- The weakening and eventual disappearance of a learned response; in classical conditioning, it occurs when the conditioned stimulus is no longer paired with the unconditioned stimulus.

📖 **Stimulus Generalization:**

- After conditioning, the tendency to respond to a stimulus that resembles one involved in the original conditioning.

📖 **Stimulus Discrimination:**

- The tendency to respond differently to two or more similar stimuli.

3.5.2. Operant Conditioning

In classical conditioning the organism learns to associate new stimuli with natural, biological responses such as salivation or fear. The organism does not learn something new but rather begins to perform in an existing behavior in the presence of a new signal.

Operant conditioning, on the other hand, is *learning that occurs based on the consequences of behavior* and can involve the learning of new actions. Operant conditioning occurs when a dog rolls over on command because it has been praised for doing so in the past, when a school room bully threatens his classmates because doing so allows him to get his way, and when a child gets good grades because her parents threaten to punish her if she doesn't. In operant conditioning the organism learns from the consequences of its own actions.

Psychologist Edward L. Thorndike (1874–1949) was the first scientist to systematically study operant conditioning. The influential behavioral psychologist B. F. Skinner (1904–1990) further expanded Thorndike's ideas to develop a more complete set of principles to explain operant **conditioning. Skinner studied, in detail, how animals changed their behavior through reinforcement and punishment, and he developed terms that explained the processes of operant learning. ("How Positive and Negative Reinforcement and Punishment Influence Behavior"). Skinner used the term reinforce to refer to *any event that***

strengthens or increases the likelihood of a behavior **and the term punisher to refer to** ***any event that weakens or decreases the likelihood of a behavior*****. And he used the terms** ***positive*** **and** ***negative*** **to refer to whether reinforcement was presented or removed, respectively.**

Positive reinforcement: *strengthens a response by presenting something pleasant after the response.* **For example,** giving child praise for completing his homework represents positive reinforcement

Negative reinforcement: strengthens *a response by reducing or removing something unpleasant* .**For example,** taking aspirin to reduce the pain of a headache represents negative reinforcement. In both cases, the reinforcement makes it more likely that behavior will occur again in the future Reinforcement, either positive or negative, works by increasing the likelihood of a behavior.

Punishment: on the other hand, refers to *any event that weakens or reduces the likelihood of a behavior*.

Positive punishment: *weakens a response by presenting something unpleasant after the response.*

Negative punishment: weakens *a response by reducing or removing something pleasant*.

Types of Consequences

Behaviors can also be trained through the use of *secondary reinforces*. Whereas a primary reinforce includes *stimuli that are naturally preferred or enjoyed by the organism, such as food, water, and relief from pain*, a secondary reinforce (sometimes called *conditioned reinforce*) is a *neutral event that has become associated with a primary reinforce through classical conditioning*. An example of a secondary reinforce would be money praise or smile.

It is also important to note that reinforcement and punishment are not simply opposites. The use of positive reinforcement in changing behavior is almost always more effective than using punishment. This is because positive reinforcement makes the person or animal feel better, helping create a positive relationship with the person providing the reinforcement. Types of positive reinforcement that are effective in everyday life include verbal praise or approval, the awarding of status or prestige, and direct financial payment. Punishment, on the other hand, is more likely to create only temporary changes in behavior because it is based on coercion

and typically creates a negative and adversarial relationship with the person providing the reinforcement. When the person who provides the punishment leaves the situation, the unwanted behavior is likely to return.

3.5.3. Social- Cognitive Theory

3.5.3.1. Observational Learning: Learning by Watching

The idea of latent learning suggests that animals, and people, may learn simply by experiencing or watching. Observational learning (modeling) is *learning by observing the behavior of others*. To demonstrate the importance of observational learning in children, Bundara first let the children view one of the three types of modeling, and then let them play in a room in which there were some really fun toys. To create some frustration in the children, Bandura let the children play with the fun toys for only a couple of minutes before taking them away. Then Bandura gave the children a chance to play with the Bobo doll.

If you guessed that most of the children imitated the model, you would be correct. Regardless of which type of modeling the children had seen, and regardless of the sex of the model or the child, the children who had seen the model behaved aggressively—just as the model had done.

They also punched, kicked, sat on the doll, and hit it with the hammer. Bandura and his colleagues had demonstrated that these children had learned new behaviors, simply by observing and imitating others.

Observational learning is useful for animals and for people because it allows us to learn without having to actually engage in what might be a risky behavior. Monkeys that see other monkeys respond with fear to the sight of a snake learn to fear the snake themselves, even if they have been raised in a laboratory and have never actually seen a snake

Elements of Observational Learning

- Attention
- Retention/Memory
- Reproduction/Imitation
- Motivation

3.5.3.2. Insight and Latent Learning

John B. Watson and B. F. Skinner were behaviorists who believed that all learning could be explained by the processes of conditioning—that is, that associations, and associations alone, influence learning. But some kinds of learning are very difficult to explain using only conditioning. Thus, although

classical and operant conditioning plays a key role in learning, they constitute only a part of the total picture.

One type of learning that is not determined only by conditioning occurs when we suddenly find the solution to a problem, as if the idea just popped into our head. This type of learning is known as insight, *the sudden understanding of a solution to a problem*.

Edward Tolman studied the behavior of three groups of Latent learning refers to *learning that is not reinforced and not demonstrated until there is motivation to do so*. Tolman argued that the rats had formed d a "cognitive map of the maze but did not demonstrate this knowledge until they received reinforcement.

CHAPTER FOUR

MEMORY AND FORGETTING

We will begin the chapter with the study of memory, which is defined as a process by which we encode, store and retrieve information (what was learned earlier). Our memories allow us to do relatively simple things, such as remembering where we put things or the name of the current Ethiopian president, but also allow us to form complex memories, such as how to ride bicycle or to write a computer program. Moreover, our memories define us as individuals—they are our experiences, our relationships, our successes, and our failures. Without our memories, we would not have a life.

4.1. Processes of Memory

Memory process considers how memories are formed (encoding) how memories are maintained once they are encoded (storage) how the stored information is recovered and translated in to performance (retrieval). Memory process involves three basic steps. These are:

A. Encoding, Refers to the process by which information is initially recorded in form usable to memory. Unless information is encoded, it cannot be remembered. I'm sure you've been to a party

where you've been introduced to someone and then—maybe only seconds later—you realize that you do not remember the person's name. Of course it's not really surprising that you can't remember the name, because you probably were distracted and you never encoded the name to begin with. Not everything we experience can or should be encoded. We tend to encode things that win our attention and not bother to encode things that are irrelevant.

B. Storage; Involves keeping or maintaining information in the memory. Or it is the persistence of information in the memory. To be remembered, an experience must leave some record in the nervous system. This record—known as the memory trace—is squirreled away and held in some enduring form for later use.

C. Retrieval, Even when information has been adequately encoded and stored, it does not do us any good if we cannot retrieve it. Retrieval refers to *the process of reactivating information that has been stored* in memory.

4.2. Structures/ Forms/Stages of Memory

Another way of understanding memory is to think about it in terms of stages that describe the length of time that information remains available to us. According to this approach, information begins in *sensory memory*, moves to *short-term memory*, and eventually moves to *long-term memory*. But not all information makes it through all three stages; most of it is forgotten. Whether the information moves from shorter-duration memory into longer-duration memory or whether it is lost from memory entirely depends on how the information is attended to and processed.

1. Sensory Memory/ Registrar

Sensory memory refers to *the brief storage of sensory information*. Sensory memory is a memory buffer that lasts only very briefly and then, unless it is attended to and passed on for more processing, is forgotten. The purpose of sensory memory is to give the brain some time to process the incoming sensations, and to allow us to see the world as an unbroken stream of events rather than as individual pieces.

- **The type** information in this memory is a very accurate and complete representation of the environment but it is unprocessed.
- **Capacity** of sensory memory is very large, more information than we can possibly handle at once. It stores all information reaching our senses for a brief time.
- **Duration** if the information is visual information it stores in the **iconic memory** in the form of images for a maximum of one second and it can hold about 11-16 items of information.
- If the information is auditory information it stores in **echoic memory** in the form of sound patterns for two seconds.

Attention and perception (interpretation of sensory information) are most important in this stage. Most information briefly held in

the sensory memory simply decays from the registrar. However some of the information that has got attention and recognition pass into STM for further processing.

2. Short Term Memory (STM)

It Most of the information that gets into sensory memory is forgotten, but information that we turn our attention to, with the goal of remembering it, may pass into *short-term memory*. Short term memory (STM) is *the place where small amounts of information can be temporarily kept for more than a few seconds but usually for less than one minute.* Information in short-term memory is not stored permanently but rather becomes available for us to process, and *the processes that we use to make sense of, modify, interpret, and store information in STM* are known as working memory.

- Unlike sensory memory, STM is not brief replicas of the environmental message. Instead it consists of the by-products or end results of perceptual analysis. Therefore, the **type** of information in short term memories are visual images, words sentences and so on received from SM.
  - The **capacity** of STM is limited to a very small number of "bits" of information that can be held at one time. Miller (1956) estimated that its capacity to be the "magic number seven plus or minus two."
  - The **duration** of information in STM is short, about 20 to30 seconds. The information in STM is fragile and easy to lose.
- ❖ One way to prevent the decay of information from short-term memory is to use working memory to rehearse it. We can overcome the limitation of the information duration by using rehearsals. There are two types of rehearsals. These are:

Maintenance rehearsal: is *the process of repeating information mentally or out loud with the goal of keeping it in memory*. We engage in maintenance rehearsal to keep a something that we want to remember (e.g., a person's name, e-mail address, or phone number) in mind long enough to write it down, use it, or potentially transfer it to long-term memory. If we continue to rehearse information it will stay in STM until we stop rehearsing it, but there is also a capacity limit to STM. Try reading each of the following rows of numbers, one row at a time, at a rate of about one number each second. Then when you have finished each row, close your eyes and write down as many of the numbers as you can remember.

019

3586

10295

861059

1029384

75674834

657874104

6550423897

If you are like the average person, you will have found that on this test of working memory, known as a *digit span test***,** you did pretty well up to about the fourth line, and then you started having trouble. I bet you missed some of the numbers in the last three rows, and did pretty poorly on the last one.

Elaborative Rehearsal – involves associated with the information to different things and persons that already knows. This kind of rehearsal is not only retains information in the STM but also helps to move information from STM to LTM.

The other way in which we are able to expand our ability to remember things in STM is by using a memory technique called *chunking*

Chunking- is *the process of organizing information into smaller groupings (chunks), thereby increasing the number of items that can be held in STM*. For instance, try to remember this string of 12 letters:

XOFCBANNCVTM

You probably won't do that well because the number of letters is more than the magic number of seven. Now try again with this one:

MTVCNNABCFOX

Would it help you if I pointed out that the material in this string could be chunked into four sets of three letters each? I think it would, because then rather than remembering 12 letters, you would only have to remember the names of four television stations. In this case, chunking changes the number of items you have to remember from 12 to only four.

E.g. From twelve digit number 3,4,5,8,1,2,6,9,6,7,1&5 it is easier to put them in to three chunks like 3458,1269,6715.

3. Long Term Memory

It is a memory system used for relatively permanent storage of meaningful information. It holds information that is well learned.

- The **type** of information is facts, events, knowledge, skills, either visual images or verbal units or both.
- The **capacity** of LTM also has no practical limits.
- The **duration** of the information in this memory has no limited time. It stores for unlimited time.LTM stores information for indefinite periods. It may lasts for days, months, years or even a lifetime. The access of information from STM is immediate but the access of information from LT

❖ **LTM has two categories. These are:**

A, Declarative/Explicit/ Memory

When we assess memory by asking a person to consciously remember things, we are measuring *explicit memory*. Explicit memory refers to *knowledge or experiences that can be consciously remembered*. As you can see in Figure 8.2 "Types of Memory", there are two types of explicit memory: *episodic* and *semantic*.

- **Episodic memory** refers to *the firsthand experiences that we have had* (e.g., recollections of our high school graduation day or of the fantastic dinner with our mom last year).
- **Semantic memory** refers to *our knowledge of facts and concepts about the world* (e.g., that the absolute value of −90 is greater than the absolute value of 9 and that one definition of the word a effect is ―the experience of feeling or emotion).

B, Non-declarative/Implicit/Memory

While explicit memory consists of the things that we can consciously report that we know, implicit memory refers to knowledge that we cannot consciously access. However, implicit memory is nevertheless exceedingly important to us because it has a direct effect on our behavior. Implicit memory refers to *the influence of experience on behavior, even if the individual is not aware of those influences*. There are three general types of implicit memory: procedural memory, classical conditioning effects, and priming.

Procedural memory; refers to *our often unexplainable knowledge of how to do things*. When we walk from one place to another, speak to another person in English, dial a cell phone, or play a

video game, we are using procedural memory. Procedural memory allows us to perform complex tasks, even though we may not be able to explain to others how we do them. There is no way to tell someone how to ride a bicycle; a person has to learn by doing it. The idea of implicit memory helps explain how infants are able to learn. The ability to crawl, walk, and talk are procedures, and these skills are easily and efficiently developed while we are children despite the fact that as adults we have no conscious memory of having learned them.

Classical conditioning effects, is type of implicit memory in which we learn, often without effort or awareness, to associate neutral stimuli (such as a sound or a light) with another stimulus (such as food), which creates a naturally occurring response, such as enjoyment or salivation. The memory for the association is demonstrated when the conditioned stimulus (the sound) begins to create the same response as the unconditioned stimulus (the food) did before the learning.

Priming is a *change in behavior as a result of experiences that have happened frequently or recently*. Priming refers both to the activation of knowledge (e.g., we can prime the concept of kindness by presenting people with words related to kindness) and to the influence of that activation *on behavior (people who are primed with the concept of kindness may act more kindly).*

Storing information in the LTM

The way we learn the information in the first place seems to affect its recall later. Here elaboration, organization and context play an important role.

- **Elaboration**-is an addition of meaning to the new information through its connection with the already existing knowledge. In other words we apply our schemas and draw an already existing knowledge to build an understanding of new information.
- Elaboration is a form of rehearsal, it keeps the information activated in the working memory long enough to have a chance for permanent storage in LTM. It also builds extra links to existing knowledge.
- **Organization**-is a second element of processing that improves learning. Materials that are well organized is easier to learn and to remember than bits and pieces of information, especially if the information is complex or extensive.
- **Context**-is the aspects of physical and emotion contexts are learned with other information. Later, if you try to

remember the information, it will be easier if the current context is similar to the original one.

4.3. Forgetting

It is the apparent loss of information already stored and encoded in the LTM.

- ✔ After varying periods of time from initial learning had passed, he found that forgetting occurred systematically.
- ✔ He found that the most rapid forgetting occurs in the first hours, and particularly in the first hour. After nine hours, the rate of forgetting shows and declines little, even after the passage of many days.
- ✔ Furthermore, releasing of previously mastered material is almost always faster than starting from a scratch, whether the material is academic information or a motor skill.

4.3.1. Theories of Forgetting

Psychologists have proposed **five theories of forgetting**. We will discuss each deeply in the following manner.

1. Decay Theory

- .In decay, the trace simply fades away with nothing left behind, because of disuse and the passage of time. The limitation of the theory is that:
- He cannot explain all kinds of memory. He explain more of sensory & STM but less of LTM.
- The mere passage of time does not account so well for forgetting in LTM. People commonly forget things that happened only yesterday while remembering events from many years ago.

2. Interference Theory

- It holds that forgetting occurs because similar items of information interfere on another in either storage or retrieval.
- There are two forms of interference that influence forgetting. These are:
- **Proactive /Forward/ Interference** -the information learned earlier interferes with recall of newer information/materials/.
- **Retroactive/Backward/ Interference**-the new information interferes with the ability to remember old information.

3. New Memory for Old/Displacement/Theory

- It states that the new information entering in the memory can wipe out old information, just as recording on an

audio or videotape will obliterate/wipe out the original material.

- It says as you continue to store more and more information at the same time you lose other information, which was stored before/the new information replaces the old information/.

4. **Motivated Forgetting Theory**
   - Freud maintained that people forget because they block from consciousness those memories that are too threatening or painful to live with, and he called this self-protective process **Repression.**
   - According to this theory, people forget because they are motivated to forget/**we forget, we forget that we forget/.**
5. **Cue Dependent Forgetting**
   - Often when we need to remember, we rely on retrieval cues-items of information that can help us find the specific information we are looking for.
   - When we lack retrieval cues, we may fell as if we have lost the call number for an entry in the mind's library. In the LTM, this type of memory failure may be the most common of all.
   - Remembering is often easier when you are in the same physical environment/circumstances or situation in the time of learning matters to remember back as you were when an event occurred because cues in the present context match from the past.
   - Your mental state may act as a retrieval cues, evoking a state dependent memory/the mood or mental state we have matters to remember back/. For example if you are emotional when something happens, you may remember it better that event again when you are emotional.

4.4. Improving Memory

A better approach/mental strategies/ that we follow to improve our memory are:

- **Paying attention**: -it is the first step and encodes the information in the first place by giving paying attention.
- **Encode the information in more than one way**: -the more elaborate the encoding of information, the more memorable it will be.
- **Add meaning**: -the more meaningful the material, the more likely it is to link up with information already in the LTM.

- **Take your time:** - if possible, minimize interference by using study breaks for rest or recreation. Sleep is the ultimate way to reduce interference.
- **Over learn**: - studying the information even after you think you already know it is one of the best ways to ensure that you will remember it.
- **Monitor you learning**: - by testing yourself frequently, rehearsing thoroughly, and reviewing periodically, you will have a better idea of how you are doing.
- **Developing good studying habits: -** which are scheduled in the comfortable place.
- **Use multisensory approach to store information**:- which means store information in different ways.
- **Expanding by using illustrations** or examples and form analogies.
- **Use rehearsals and elaborations** by associating with past experience.
- **Form Acronym**-forming a term from the first letters of a serious of words.

.

UNIT FIVE

MOTIVATION AND EMOTION

Definition of; Motivation

- Motivation is a force that energizes, sustains and direct behavior towards a goal
- Just as a force moves an object , motivation moves a person
- What we mean by "I am motivated or inspired"

Needs;Are specific states within the organism which is the base for some deficit (physiological or psychological deficit)

Drives; Are internal states within the organism that forces in to an action towards a particular goal.

Incentives**;** Are external motivating stimuli such as money, praise, or attention andIncentives pull a person towards a goal.

1. **Drive theories of motivation**

- According to drive theory when an internal driving state is aroused the individual is pushed to engage in behavior which will lead to a goal that reduces the intensity of the driving state.
- Drives are internal states of tension that motivates or pushes an organism to engage in activities that should reduce this tension

- The main goal of drive reduction is to get a homeostasis a state of balance necessary in many physiological systems

2. Incentive theories of motivation

- According to incentive theories motivation is not primarily a matter of being pushed from within by various urges rather it is mere a question of being pulled from without by expectations of attaining desired outcomes
- Incentive make people to engage in complex effortful or even painful behavior

3. Arousal theory of motivation

- The goal of the behavior is the maintenance of or an increase of arousal.
- Human beings have a certain optimal or best level of stimulation that is pleasurable.
- If our stimulation and activity levels become too high we try to reduce them. if the level is too low we will try to increase them by seeking stimulation until to get the optimum level of arousal

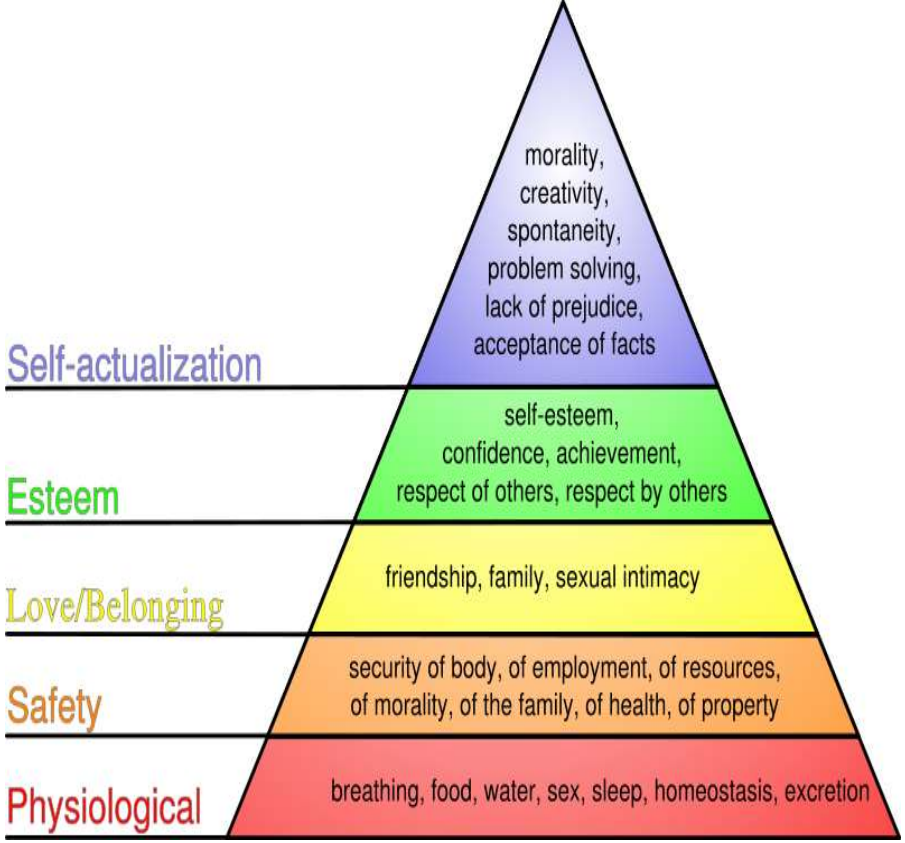
4. **Maslow's hierarchy of motivational needs**

- Hierarchy of needs a systematic arrangement of needs according to priority which assume that basic needs must be meet before less basic are aroused.
- The model can be conceptualized as pyramid in which the more basic needs are at the bottom and the higher levels needs are at the top
- This model suggests that before more sophisticated higher order needs can be meet certain primary needs must be satisfied

Classification of motives

Primary motives

- They are rooted to a large extent from physiological state of the body.



- Primary motives are innate in nature and must be met for survival.
- The most important primary motives include hunger, pain avoidance, a need for oxygen, sleep, and elimination of wastes and regulation of body temperature.

Secondary motives

- ✓ Social Motives are the complex motive states, or needs that are the source of many human actions.
- ✓ They are learned from social groups or social environment that is why they are social motives.
- ✓ They are rooted in physiological motives and emerge out of them gradually with advancing age of the child.
- ✓ Social motives are general persisting characteristics of a person, and since they are learned, their strength differs greatly from one individual to another.

Extrinsic motivation

- Refers to motivation to engage in an activity as a means to an end.
- For example, extrinsically motivated learners may study hard for a test because they believe studying will lead to a high test score, teacher compliments, a good grade in the class, or some other reward or end.

Intrinsic motivation

- Is motivation to engage in an activity for its own sake
- For Example, intrinsically motivated learners may study hard for because studying is viewed as enjoyable or worthwhile in it.
- We can think of extrinsic and intrinsic motivation as two ends of a continuum, meaning the higher the extrinsic motivation, the lower the intrinsic motivation and vice versa.

Frustration

- Frustration refers to the blocking of any goal directed behavior.

Sources of frustration;

- Environmental forces
- Personal inadequacy
- Conflict motives
- Conflict exists whenever a person has incompatible or opposing goals.
- frustration comes from being unable to satisfy all the goals

Motivational conflicts

1. **Approach-Approach conflict**

- Occurs when one is simultaneously attracted to two or more desirable goals
- When you want to stay with your family members as well hang out with friends

2. Avoidance-Avoidance conflict

- when a person faced and motivated to two or equally unattractive choice but he/she must be chose on
- You faced choosing two collages both have negative and positive characters

Emotion

Emotion: - It is a Latin word which means, "to set in motion."

Emotion- is a motivated state that is marked by

- Physiological arousal,
- Expressive behavior and
- Mental experiences

- An emotion is a mental and physiological feeling state that directs our attention and guides our behavior.

1. **Physiological changes /Bodily Arousal**

- Emotions involve physiological changes
- Psycho- physiologists, who study such events, are able to measure the heart rate, blood pressure, blood flow to various parts of the body, activity of stomach and gastrointestinal system.
- When we become aroused, the sympathetic nervous system provides us with energy to respond to our environment

2. **Subjective Cognitive States**

- Involves the importance of thoughts, beliefs and expectations in determining the type and intensity of emotional response.
- It generally includes the personal experiences that we label as emotions.

- We interpret a situation in order to produce emotional response.
- How one reacts to an event depends on how he or she explains (interpret) it.
- People can learn how their thinking affects their emotions and can change their thinking accordingly.

3. Expressive Behaviors (Overt Experience)

☺ It refers to the out ward signs of emotions

☹ We are able of recognize the presence of others emotion but it is difficult to know the intensity of emotions on others.

☺ We communicate our emotions through verbal and non verbal expression.

☹ There are non-verbal cues to communicate our emotions such as facial expression, eye contact, body movements, posture and touching

Facial Expressions

☺Moods and feelings are often reflected in the face and can be read there from specific expressions.

☹It appears that there are six different emotions, which are clearly represented on the face.

- ✓ Anger, Disgust ,Happiness , Fear ,Surprise and Sadness
- ✓ Each of these emotions has biological accompaniments in the form of facial expressions, voice patterns, muscular changes and brain activity.
- ✓ The most important communicator of emotion is the face. The face contains 43 different muscles that allow it to make more than 10,000 unique configurations and to express a wide variety of emotions.

Eye contact

- We do often learn much about others feeling from their eyes.
- For example, we interpret a high level of gazing from another as a sign of liking or friendliness.
- In contrast, if others avoid eye contact with us, we may conclude that they are unfriendly, don't like us, or are shy

Body language (Gesture)

- Our current mood or emotions is often reflected in the posture, position and movement of our body.
- Together, such non-verbal behaviors are termed as Body language.
- Gestures tell us a great deal about the emotional state of the other person.

Primary and Secondary Emotions

❖ **Primary emotion**

- Emotions considered being universal and biologically based. They generally include the six basic emotions.

- Facial expressions for primary emotions are universal

❖ **Secondary emotions**

- Emotions that develop with cognitive maturity and vary across individuals and cultures