John Saldanha – Essay General Psychology – Chapters 6&7.

Chapter 6

1.SPECIFIC STIMULUS - Reflexes are natural unlearned behaviors that happen when our physical senses like taste, touch, smell, sight, or sound senses a SPECIFIC external stimulus in a SPECIFIC part of the body, the body naturally reacts to that stimulus. One stimulus in the environment is enough to trigger the reflex either physically or emotionally or mentally. Instinct however is triggered, by a wide range of life events and experiences both individual and cumulative.

SPECIFIC BODY PARTS - The second way, Reflex is different from Instinct, is that Reflex has to do with the body's physiology involving the brain's connection to the whole body via the spinal cord. It does not require mental processing. That means it can involve only one part of the body at a time. For instance, if a doctor takes a reflex hammer and hits it on my knee, my knee automatically jerks. It was automatic and did not need any thinking or mental processing on my part. Instincts however are much more complicated behavior patterns unique to every human being, in that it involves the emotional, mental, and intellectual processing at a deeper level and involves the whole being. For example, people who have experienced PTSD instinctively react fearfully or with dread, to any loud noise or unusual sound.

6. In classical conditioning the "door" is the unconditioned stimulus, "the dog running to the door" is the unconditioned response. Mateo added "dog leash" as the neutral stimulus. Therefore "dog leash" NS + "door" UCS = "Running to the door" UCR. But now the "dog leash" becomes the conditioned stimulus and "running to the door" becomes the conditioned response.

For higher-order conditioning to happen an established conditioned stimulus i.e “dog leash” needs to be paired with a new neutral stimulus which will become the “second-order stimulus”, so that it, also elicits the conditioned response, without the initial conditioned stimulus i.e the dog leash, being presented.

So for example every time Mateo gets the "dog leash" – conditioned response, he also makes the “noise of shoes” – a new neutral stimulus. Eventually, whenever the dog hears Mateos shoe steps he will run to the door even if Mateo does not touch the dog leash. In this case "noise of the shoes" has become the higher-order conditioning or the second-order conditioning.

"Door" UCS = "Dog running" UCR

"Dog Leash" NS + "Door" UCS = UCR

"Dog Leash" CS = "Dog Running" CR

"Noise of the shoes" – New Neutral Stimulus/secondo-order stimulus + "Dog Leash" CS = "Dog running to the door" – CR

"The noise of the shoes" – High Order Conditioning / Second-order stimulus = "Dog Running to the door" - CR

13. The above example is the classic case of another type of associative learning called operant conditioning. Operant conditioning is used in cases where you want the person to learn to associate a behavior with a certain consequence either positive or negative to encourage or discourage the behavior.

Unconditioned Stimulus means the stimulus which instinctively attracts a response. No conditioning is necessary. Here in this example “Cake = UCS”

Unconditioned Response is the response to the stimulus which is natural. If you like cakes, your response will be to eat it, if you see it in front of you. Here in this example "Patrick eating" = UCR

Connie does not like Patrick eating cake. So, she wants to condition him or change his behavior. This is being done by adding a negative consequence which in this case is squirting him with water every time he eats the cake. Here "squirting water" = CS

The conditioning or learning, that takes place because of the negative or unpleasant consequence being associated with eating cake makes Patrick avoid it altogether. Here "avoiding eating cake" = CR

14. Coined by psychologist B. F. Skinner, operant conditioning, is a theory that behaviors can be changed or strengthened based on the motivation attached to the behavior. Unlike classical conditioning which is used to strengthen existing behaviors with new stimuli, operant conditioning can also focus on teaching new behaviors with reinforcements or punishments, which can be both can be positive or negative. The idea of the reinforcement, whether positive or negative is to increase behavior, and punishment, whether positive or negative is to decrease a particular behavior.

If a behavior needs to be changed or decreased, then you follow up on the behavior with a punishment either negative or positive. Punishment decreases behavior. If you want to strengthen that behavior, then you follow up on the behavior with positive or negative reinforcement. Reinforcement increases behavior. In operant conditioning, the words positive and negative reinforcements should not be understood in terms of good and bad. Positive reinforcement simply means something is being added as a reward, and negative reinforcement means something is being taken away as a reward.

Ultimately people or animals learn to connect the behavior with a consequence and thereby either strengthen the behavior or give up the behavior completely. And if doing something brings rewards, we are likely to repeat that behavior, alternatively if doing something brings about negative rewards, we are less likely to do it again.

28. While reflex and instincts are innate behaviors, there is behavior that takes place from learning through experience. Operant conditioning is one of the methods of learning behaviors. Operant conditioning is what is exhibited by the infant in this experiment., whereby the infant will learn to associate a behavior with the rewards or punishment. A pleasant reward will bring about expected behavior.

Royee – Collier used the positive reinforcement method. Every time the baby kicked the mobile moved. The mobile moving was the positive reinforcement, for the baby moving her leg. Because there was a reward, the baby continued the behavior. The experimenter tied the ribbon to the empty stand again to check whether the baby had learned the behavior.

Chapter 7

31. Cognitive psychology is an attempt to study complex human thought, processes of those thoughts, and intelligence to understand those thoughts. More precisely it seeks to understand:

a) How human beings think and why certain people understand and process things faster and better than others.
b) How our brain can perceive and organize thoughts in an orderly way, amid many parallel and often conflicting thoughts going through our mind.
c) How our brain can process many thoughts and remains active to receive more information even while organizing existing thoughts into tasks.
d) How does our brain remember and recollects past things?
e) How our brain can solve complex issues, bringing to mind past experiences of solved issues.
f) How our brain can think through the presently available options with the information available even while there are unconscious thoughts there are being processed in the background.
g) How emotional intelligence plays a role in cognitive intelligence and vice versa.
h) How our brain helps us learn languages, be creative, and solve problems.
i) How do our unconscious thoughts play a role in our conscious thinking and learning?

32. Children's language learning begins right when they are in the mother’s womb. The mother's language becomes the primary and preferable language that they begin learning as they are

biologically predisposed to it, and can learn the language very quickly, once they are born because of the predisposition to the maternal language while in the womb. They are also able to grasp and distinguish other languages spoken around them. Also, children at a younger age can learn the language with relative ease compared with adults.

a) Between 0 to 8 months, they learn to differentiate between the sounds of the mother and the others around them. They can also respond to anyone who communicates with them and can show interest in communication. They can even make some sounds.
b) By the time that they are about 1 year old, they look forward to communicating with others using basic sounds, that are used in the language or languages they have heard while in the womb and outside.
c) In 12–18 months, babies start babbling using single syllables that are repeated over and over. This babbling is not necessarily communicating, but they also use the babble even when they are alone, with their mom, or with their caregivers. A child begins to utter one word like ma or da, in this stage. Over and above their one-word utterances they may learn several words.
d) In 18-24 months, they start speaking simple sentences made up of two words with more variations. The child’s words may be limited to the names of objects or people. Besides, children begin to reveal an understanding of the singular or plural rules that apply to the words of the language that they speak.

33. We need to find solutions to so many issues and problems that we face on a day to day basis. The problems can range from technical to relational to financial to social issues. To solve any

problem, we need to first understand the issue at hand, lay down a problem-solving strategy that we think will help, and then act upon that strategy to solve the problem.

The first problem-solving strategy is called “trial and error”. This strategy is to keep on trying different ways and means to solve the existing problem until the problem is solved. Trial and error mean that you may not succeed at the first attempt but keep on looking from different angles at the same problem to find out what is wrong, and finally, you may succeed. In trial and error, you start by trying to solve the issue by what we think is the problem. Once we find that what we thought is not the problem, then we go-ahead to the next thing that we think is the problem. The goal is to keep on trying until the issue is solved. For example: - we have a xerox machine in the church. And at times it stops working. So, we start with the most basic issue whether there is paper. Once we find that the paper is there, then we check whether there is ink, if the ink is there then we try to find whether any paper is stuck in the machine, if there is no paper stuck, then we go on to find whether all the trays and covers are closed and in place. So we kept on trying until we realized that the toner box was full. We emptied the toner box and the machine started working. That is a trial and error problem-solving strategy.

The second type of problem-solving strategy is called “algorithm”. It is a step by step instruction given, which if followed to the hilt, will solve the problem. For example, recently I mounted a TV on the wall of my living room. For that, we needed to buy a TV mounting bracket. It came with a step by step instruction on how to mount the bracket on the wall and then how to mount the TV on that bracket. As long as we followed the instruction, we knew we would be successful.

The third type of problem-solving strategy is called “heuristic”. It is basically what I would call is gut feeling decision making, even though it may not be the best way to make a solve an issue. It also can be a self-discovery method to problem-solving, that is irrational, imperfect and though it might be successful in the short - term it does not guarantee long-term goals or success. This problem-solving strategy is helpful in times when there is little time to solve the problem and the information available to solve the problem is either immense or too little.

One of the methods of this type of problem-solving is called “working backward”. Keeping the end goal in mind, you start working from the goal backward. In this way, you get to break down the whole task into smaller tasks. For example, if we make a long-term SMART goal, it is necessary to break down the goal into smaller goals in smaller time frames to progressively be able to reach a bigger goal and also to preempt any problems while reaching the big goal.

34. Raymond Cattell divided intelligence into crystallized intelligence and fluid intelligence. Crystallized intelligence is knowledge acquired through education and self-directed studies and reading. People with crystallized intelligence not only acquire knowledge, through means of studies, reading, and research but can remember it well. I have known people who can hear a thing once or read something once and have seen something once in passing can remember it well enough to quote it exactly. They are also able to bring back to mind from memory the information at times when they need to use it. Students who score high marks in exams portray crystallized intelligence because they were able to learn, memorize, and recall it well enough to write down during exams. This kind of intelligence increases with age.

Fluid intelligence is the flexible ability of a person to understand, perceive, and sense complex problems and be able to solve it, even though there may not be formal education or experience regarding the problem they solved. It is an ability to be able to think through a problem, at the spot, despite a lack of any existing experience or instruction. Some people are not formally educated but can solve complex technical issues by taking one look at the machine or issue. This is called fluid intelligence. This kind of intelligence decreases with age.

41. Our brains can take in huge amounts of information daily from what we see, read, hear, feel, and sense daily. The brain then processes and organizes this huge amount of information into categories depending on images, ideas, topics, experiences, feelings if any attached to the information, and stores it in a system similar to the file cabinet system called concepts. The information is stored in such a way so that it is easily accessible for use, organized, and categorized.

A schema then is the organization of RELATED thoughts, information, and emotions in categorical clusters. The organization of information and then categorizing it into related clusters helps the mind to efficiently access the information already available in topical clusters and categories for use.

A role schema is when our mind makes assumptions about individuals based on their profession or backgrounds. For example, if I meet someone who is a banker, my brain will automatically activate the "banker schema" and process and access all the information stored in my mind about bankers that I have learned from reading, hearing, seeing, observing, about banks and people working in the banks and would start making assumptions based on the stored information. The assumption of a banker that my brain would make is of a person who is well educated, smart, hard-working, good with account and figures and helping people. Without knowing the person, I have already made judgments about the person's character and personality based on his profession. While role schema allows for accessing more information which can be positive, the negative side is that the assumption about the banker may be completely wrong. The general information accessed by the brain, may not be appropriate for the individual banker.