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OPERANT CONDITIONING

This type of conditioning was first investigated by B.F. Skinner. Skinner studied occurrence of voluntary responses when an organism operates on environment. He called them operants. Operants are those behaviours or responses, which are emitted by animals and human beings voluntarily and are under their control. The term operant is used because the organism operates on the environment. Conditioning of operant behaviour is called operant conditioning.

Skinner conducted his studies on rats and pigeons in specially made boxes, called the Skinner Box. A hungry rat is placed in the chamber, which was so built that the rat could move inside

but- could not- come out. In the chamber there was a lever, which was connected to a food container kept on the top of the chamber. When the lever is pressed, a food pellet drops on the plate placed close to the lever. While moving around and pawing the walls, the hungry rat- accidentally presses the lever and a food pellet- drops on the plate. The hungry rat- eats it. In the next- trial, after a while the exploratory behaviour again starts. As the number of trials increases, the rat- takes lesser and lesser time to press the lever for food. Conditioning is complete when the rat- presses the lever immediately after it is placed in the chamber. It- is obvious that- lever pressing is an operant- response and getting food is its

consequence.

In the above situation the response is instrumental in getting the food. That is why, this type of learning is also called instrumental conditioning. Examples of instrumental conditioning abound in our everyday life. Children who want to have some sweets in the absence of their mother learn to locate the jar in which mother hides the sweets for safekeeping and eat it. As a matter of fact human beings learn short-cuts to attain desired goals or ends through instrumental conditioning.

Determinants of Operant Conditioning

Operant or instrumental conditioning is a form of learning in which behaviour is learned, maintained or changed through its consequences. Such consequences are called reinforcers. A reinforcer is

defined as any stimulus or event which increases the probability of the occurrence of a (desired) response. A reinforcer has numerous features, which affect the course and strength of a response. They include its types - positive or negative, number or frequency, quality - superior or inferior and schedule - continuous or intermittent (partial). All these features influence the course of operant conditioning. Another factor that influences this type of learning is the nature of the response or behaviour that is to be conditioned. The interval or length of time that lapses between occurrence of responses and reinforcement also influences operant-learning.

Types of Reinforcement:

Reinforcement may be positive or negative. Positive reinforcement involves

stimuli that have pleasant consequences. They strengthen and ~~mainf~~ maintain the responses that have caused them to occur. Positive reinforcers satisfy needs, which include food, water, medals, ~~po~~ praise, money, status, information, etc. Negative reinforcers involve unpleasant and painful stimuli. Responses that lead organism to get rid of painful stimuli or avoid and escape from them provide negative reinforcement. Thus, negative reinforcement leads to learning of avoidance and escape responses. One learns to move away from dangerous stimuli because they provide negative reinforcement. Negative reinforcement is not punishment. Use of punishment reduces or suppresses the response while a negative reinforcer increases the probability of avoidance or escape response. Mild and delayed punishment has no effect. The stronger the punishment, the more lasting is the suppression effect but

Page

it is not permanent.

Sometimes punishment has no effect irrespective of its intensity. On the contrary, the punished person may develop dislike and hatred for the punishing agent or the person who administers the punishment.

Number of Reinforcement- and other Features

It refers to the number of trials on which an organism has been reinforced or rewarded. Amount of reinforcement means how much of reinforcing stimulus (food or water or intensity of pain causing agent) one receives on each trial. Quality of reinforcement refers to the kind of reinforcers. Chickpeas or pieces of bread are of inferior quality as compared with raisins or pieces of cake as reinforcers. The course of operant

CLASSMATE
Date _____
Page _____

conditioning is usually accelerated to an extent - as compare the number, amount, and quality of reinforcement increases.

Schedules of Reinforcement:

A reinforcement schedule is the arrangement of the delivery of reinforcement during conditioning trials; Each schedule of reinforcement influences the course of conditioning in its own way; and thus conditioned responses occur with differential characteristics. The organism being subjected to operant conditioning may be given reinforcement in every acquisition trial or in some trials it is given and in others it is omitted. Thus, the reinforcement may be continuous or intermittent. When a desired response is reinforced every time it occurs we call it continuous reinforcement. In contrast, in intermittent schedules responses

are sometimes reinforced, sometimes not. It is known as partial reinforcement and has been found to produce greater resistance to extinction - than is found with continuous reinforcement.

Delayed Reinforcement

The effectiveness of reinforcement is dramatically altered by delay in the occurrence of reinforcement. It is found that delay in the delivery of reinforcement - leads to poorer level of performance. It can be easily shown by asking children which reward they will prefer for doing some chore. Smaller rewards immediately after doing the chore will be preferred rather than a big one after a long gap.