OPERANT CONDITIONING

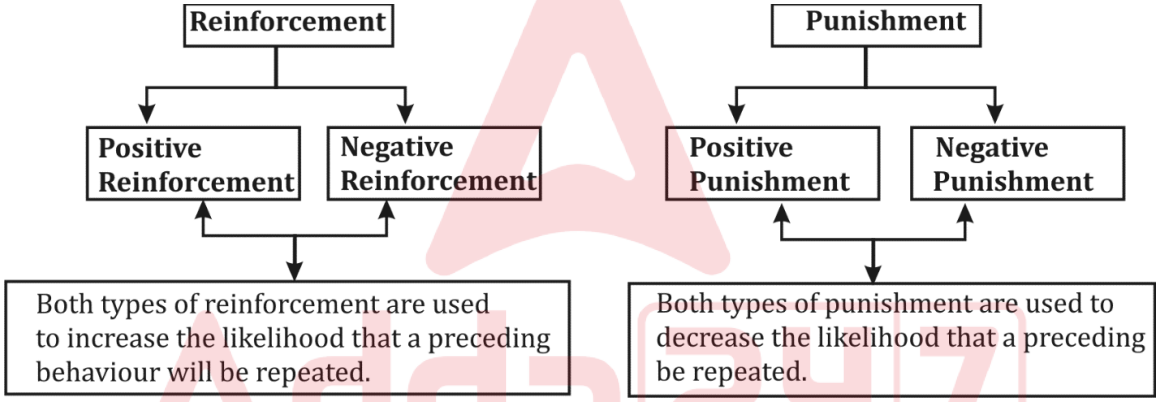
Operant or instrumental conditioning is a form of learning in which the consequences of behaviour lead to changes in the probability that the behaviour will occur. Thondike (1874 - 1949) was the pioneer in studying this kind of learning. His famous formulation of Law of Effect lies at the heart of the operant conditioning. The Law of Effect states that:

"Behavior that brings about a satisfying effect (reinforcement) is apt to be performed again, whereas behavior that brings about negative effect (punishment) is apt to be suppressed."

(Morris & Maisto, 2001)

Types of Reinforcement and Punishment

Reinforcement is a consequence that increases the probability that a behaviour will occur. On the other hand, punishment is a consequence that decreases the probability a behaviour will occur. Put it another way, reinforcement will strengthen a behaviour while punishment will weaken a behaviour. There are 2 forms of reinforcement and punishment as shown in figure.



Take note that when something is added or presented, the process of learning is called positive and when something is removed or taken away, the process of learning is called negative.

Forms of Reinforcement and Punishment

Form of consequence	Description	Example
Positive reinforcement	Receiving something pleasant will increase behaviour occurrences.	A student is praised for asking question. Subsequently, the student asks more questions.
Negative reinforcement	Removing something unpleasant will increase behaviour occurrences.	A son who is tired of hearing his father's nagging will does his homework. He does the homework to remove the nagging (Santrock, 2008).
Positive Punishment	Receiving something unpleasant will decrease behaviour occurrences.	If a teacher frowned when his student asked a question, the student would be less likely to ask question again.
Negative Punishment	Removing something pleasant will decrease behaviour occurrences.	A misbehaving student is removed from the class.

Schedule of Reinforcement

Reinforces are more effective when they are given as soon as possible after a student performs the target behaviour. In continuous reinforcement like this, a student learns very rapidly but when the reinforcement stops, the behaviour decreases rapidly too. Therefore, the schedule of reinforcement was developed. The schedule will determine when a behaviour will be reinforced. There are 4 types of schedule of reinforcement, they are fixed - ratio schedule, variable - ratio schedule fixed, fixed - interval schedule, and variable - internal schedule.

Fixed - ratio schedule	• A behavior is reinforced after a set number of responses have occurred. • For example: A student may be given a bar of Kit Kat chocolate for every ten mathematical problems solved.
Variable - ratio schedule fixed	• On a variable - ratio schedule, the number of responses needed to gain the reinforcement is not constant. • For example: Rewards could be given after 3, 5, 9, and 15 mathematical problems solved. • On a fixed - ratio schedule, a behavior is reinforced after a set number of responses have occurred. • For example: A student may be given a bar of Kit Kat chocolate for every ten mathematical problems solved.
Fixed - interval schedule	• A behavior will be reinforced after a certain period of time. No matter how often it occurs, the behavior will not be reinforced until the time is up. • For example: Students are given a quiz every Wednesday.
Variable - internal schedule	• Also based on time passing but the time period keep changing. • For example: Students are given pop quizzes.