



## Examining the Application and Effectiveness of Behaviorists Learning Theories in Teaching and Learning Process

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**Abstract.** This paper attempted to examine the application and effectiveness of behaviorist learning theories in teaching and learning process. That is classical conditioning learning theory by Ivan Pavlov and operant conditioning learning theory by B. F Skinner. Learning is a process by which experience and practice produce relatively stable or permanent changes in an organism's behavior and capabilities. Learning is a key process in human behavior and it start from birth to the end of life. It pervades everything we do and think. It plays a central role in the language we speak, our personality traits, attitudes and beliefs. A theory is an attempt to organize and integrate knowledge to explain why things happen the way they do. It can as well mean a set of assumption or postulates that state the basis or the premise of the field with which the theory is concerned on. Learning theories, on the other hand, are conceptual frameworks that describe how information is absorbed, processed, and retained during learning. It brings together cognitive, emotional, and environmental influences and experiences for acquiring, enhancing, or making changes in one's knowledge, skills and values. behaviorists learning theorist is very effective when applied appropriately in teaching and learning situation. it equip the teachers with

various teaching methods and strategies, it also help them on how to use teaching aid, how to reinforce students and motivate them to learn etc.

**Keywords:** Behaviorists Learning Theorist Teaching Learning Process.

### 1. Introduction

Learning is a key process in human behavior and it start from birth to the end of life. It pervades everything we do and think. It plays a central role in the language we speak, our personality traits, attitudes and beliefs. There have been a lot of researches into the way people learn and certain theories have been influential on developments in all areas of education, thus we cannot dispute the fact that theories of any discipline are generally perceived by teachers and students with a sense of anxiety and confusion. The main reason for this perception is that, theories are expressed in difficult language with their meaning hidden by complicated jargons (Dukawa 2015).

Learning theories form a distinct part of theoretical psychology. In recent years, many psychologists have been dedicated to study

learning theories. The interest shown by psychologists in this area is partially as a result of the interesting but complex nature of the concept of learning that is, psychologists are interested and want know how the mind acquires knowledge. It is only if we know how knowledge is acquired that we can use appropriate teaching and learning methods in our classroom teaching and learning. It is therefore important to dismiss the myths and fears of teachers and students' exhibit about learning theories in particular and to acquaint them with the central themes in the learning theories in simplified form with a view to properly comprehend the theories and efficiently apply them in teaching and learning in the classroom (Dukawa 2015).

## 2. Meaning of Learning and learning Theory

Marx (2000) in smith (2003) defines learning as a process of relatively enduring change in behavior which is a function of prior behavior (usually called practice). Oladele (2004) defines learning as a process by one profit from past experience. It is a process that leads to a relatively permanent change in behavior resulting from exposure to conditions in the environment and experience or practice. Amadu (2017) concluded that learning is a process by which experience and practice produce relatively stable or permanent changes in an organism's behavior and capabilities.

A theory is an attempt to organize and integrate knowledge to explain why things happen the way they do. It can as well mean a set of assumption or postulates that state the basis or the premise of the field with which the theory is concerned on. It is a group of principles generally supported by observable evidence that explain phenomena. theory is a coherent group of tested propositions commonly regarded as correct, that can be used as principles of explanation and prediction for a class of phenomena or a proposed explanation whose status is still conjectural and subject to experimentation, in contrast to well-established proposition that are regarded as reporting matters of actual fact. Theory is a way of thinking and a model of how things work, how

principles are related, and what causes things to work together. A theory is not just an idea; it's an idea that is a coherent explanation of a set of relationships that has been tested with lots of research. A theory is developed from practical experience as well as research. For example, Piaget looked at the stages of cognitive development. He watched his own children and carefully observed how they learned things and what they could do. From his observations, he created an explanation or a theory of the different stages of development. Piaget's stage theory of cognitive development has been tested several times by different scholars.

Learning theories, on the other hand, are conceptual frameworks that describe how information is absorbed, processed, and retained during learning. It brings together cognitive, emotional, and environmental influences and experiences for acquiring, enhancing, or making changes in one's knowledge, skills and values. Therefore, learning theories are conceptual frameworks that address key questions such as, how does learning happen? Does learning one thing help you to learn something else? If the idea survives thorough testing, that theory is said to have empirical grounding. However, a theory is modified over time based on the insights of practitioners as well as the work of researchers in the field.

## 3. Classification of Learning Theories

The classification of learning theories is perhaps necessary for an intelligible understanding of the psychology of learning. Over the past centuries, educational psychologists and researchers have posited many theories to explain how individuals acquire, organize and arrange skills and knowledge. But our concern here is on Behaviourist Approach under which I'm going to discuss on the classical conditioning and operant conditioning learning theories and their relevance in effective and efficient teaching and learning process..

### 3.1 The Behaviourist Approach

Behaviourists interpret learning in terms of connection or association between stimulus and response. Theories in this category include

Classical Conditioning Theory of Ivan P. Pavlov, Operant Conditioning Theory of B. F. Skinner, and Trial and Error Learning Theory of E.L. Thorndike.

### 3.2 Classical Conditioning Theory

Theories of classical conditioning try to describe and give order to the results of the many conditioning experiments that have been done; they are often mathematical in form. (Rescorla and Wagner, 1972). They are also concerned with the processes occurring when a conditioned response is acquired.

Classical conditioning theory gets its name from the kind of learning situation that existed in the early “classical” experiments of a Russian Psychologist called Ivan P. Pavlov (1849-1936). In the late 1890’s Pavlov began to establish many of the basic principles of classical conditioning by designing an apparatus that could measure how much a dog’s mouth waters in response to food or other things in its environment. Pavlov kept a dog hungry for a few days and then tied it to the experimental table which was fitted with certain mechanically controlled devices.

In classical conditioning, first two stimuli are presented. One stimulus is significant to the subject at the beginning of the experiment, such as food or shock. This is labeled the unconditional stimulus (UCS). It elicits the unconditional response (UCR), often without prior training. The second stimulus, such as light or bell, is called the conditional stimulus (CS). This stimulus is a previously neutral stimulus that is to later acquire the capacity to elicit the same response as does the UCS through conditioning. The response to the CS is now a conditioned response (CR) which is a learned reaction to the CS that occurs due to previous conditioning (training).

In Pavlov’s initial study of the digestive processes in dog, he discovered that the dogs could be train to salivate in response to the sound of a bell. The bell is the CS through training and the response of salivation is the UCR.

Pavlov’s experiment brings to light four essential elements of the conditioning process (Mangal, 2010). These are:

- Neutral stimulus technically known as unconditioned stimulus (UCS) i.e. food,
- It results in a natural response called the unconditioned response (UCR) i.e. salivation,
- The artificial stimulus, that is, the ringing of the bell which is technically known as conditioned stimulus (CS), and
- The chain of the conditioning process.

Thus, as a result of condition, one learns to produce behaviours in the form of a conditioned response to a conditioned stimulus. The theory of conditioning considers learning as habit formation and is based on the principle of association and substitution.

### 4. Principles of Classical Conditioning

Pavlov’s theory of classical conditioning gave birth to a number of important concepts and principles in the field of human learning, among which includes:

**a. Extinction:** In classical conditioning, it was noted by Pavlov that, the presentation of CS (bell) alone for a number of times without the UCS (food) decreases the degree of the CR (salivation) and may have the eventual disappearance of the CR. This process of gradual disappearance of the CR is called extinction.

**b. Spontaneous Recovery:** It was also discovered that after extinction. The behaviour suddenly reappears but at a slow rate. The reappearance of an extinguished CR after an interval in which the pairing of CS (Bell) and UCS (food) has not been repeated is called spontaneous recovery, which means that the learning is suppressed and not forgotten.

**c. Stimulus Generalization:** Responding to the stimuli in such a generalized way — dog salivate not only at the sight of the food, but to every stimulus like ringing the bell, appearance of light and sound of footstep was termed as stimulus generalization.

**d. Stimulus Discrimination:** This is the opposite of stimulus generalization. Here the subject learns to react differently in different situations e.g. the dog may be trained to salivate only to a particular sound of bell not to others. In this way one learns to react only to a single specific stimulus out of the many stimuli and to distinguish and discriminate one from the other present in the environment.

## 5. Applications of Classical Conditioning Theory for effective Teaching and learning in the Class room

Teaching is a process of organizing the environment, the teacher needs to organize the learning environment to stimulating, and provide the learners with opportunities for active learning-activity.

Learning proceeds from known to unknown. Learning is best achieved if the learner is led from what he/she knows to what he/she does not know through the use of similar objects or illustrations.

Learning proceeds from simple to complex. Difficult tasks should be built upon simpler tasks taught earlier. Thus, teachers should follow sequential cumulative learning.

- People learn in different ways. Teachers need to identify the individual differences among learners, so as to better understand and guide the learning process.
- Teachers need to encourage the development of skills in their learners especially those learned through reinforcement.
- Learning is a process of drawing connections between the prior and new information, as such teachers need to connect their new lesson with the previous information student have on the subject-matter.
- Teachers should use different teaching methods to deliver their lessons effectively.
- Teachers should continuously use various reinforcement to keep students busy and encouragement towards class participation.

- Equally teachers should use variety of teaching aid to facilitate the understanding of their students.

## 6. Operant Conditioning Theory

B.F. Skinner conducted a series of experiments with animals in the 1930s, from then he began to develop techniques, terminology and principles of learning through reinforcement. Based on the findings of his experiments, Skinner concluded that behavior is shaped and maintained by its consequences, operated by the organism and maintained by its results Mangal, (2010).

Operant conditioning theory was founded, coined and popularized by an American Psychologist known as B.F. Skinner. An operant is a set of acts that constitute some action of an organism. The process of operant conditioning may therefore start with the responses as they occur naturally or at random. Once a response as desired by the trainer or teacher occurs, it is reinforced through a suitable reinforcer (positively or negatively). The operant, sometimes called respondent or instrumental conditioning theory differs significantly from the classical conditioning theory because the key feature of this form of learning is that some action (behaviour) of the learner is instrumental in bringing about a change in the environment that makes the action less or likely to occur again in the future (Terry, 2006).

### 6.1 Principles of Operant Conditioning

Egbule (2009) contended that there are four principles of operant conditioning theory. These four basic principles are explained as follows:

**a. Schedules of Reinforcement:** The concept reinforcement is identical to the presentation of a reward. A reinforcer is the stimulus, the presentation or removal of which increases the probability of a response being repeated. Skinner recognizes two kinds of reinforcers (positive and negative), and put forward the idea of planning of schedules of reinforcement for conditioning the operant behaviour of the organism. Thus, reinforcement and its schedules (continuous reinforcement schedule, fixed interval

reinforcement schedule, fixed ratio reinforcement schedule and variable reinforcement schedule) play a key role in the conditioning of operant behaviour and acquisition of a learning individuals learn by making selections which is strengthened if it is correct through reinforcement.

**b. Extinction:** If the frequency of a given behaviour declines when the behaviour is no longer followed by a positive reinforcer is referred to in an operant conditioning as extinction. In extinction, positive reinforcement is simply withheld following each occurrence of the instrumental behaviour.

**c. Generalization:** in instrumental conditioning, generalization refers to the ability of an organism dealing with the perception of and response to, similar stimuli. In learning process, generalization may be understood in terms of the learner learns to provide similar operant responses, to similar to but not the same as the training stimulus.

**d. Discrimination:** In Skinner's theory, discrimination refers to the process of using cues, signals or information to determine when behaviour is likely to be reinforced or punished. To help student learn to discriminate, care should be taken to provide proper feedback on the correctness or incorrectness of the learners responses based on the learned signals and cues.

### 7. Applications of operant conditioning theory for effective teaching and learning in the Class room

The theory of operant/instrumental conditioning has brought about changes in the field of teaching and learning. The theory asserts that :

- A behavior or response is dependent upon its consequences. What children learn depends upon differential reinforcement and non- reinforcement.
- Teachers should therefore reward correct responses and eliminate incorrect responses as a source of motivation.
- Teachers advocated for the avoidance of too much punishment that is punishment should not be used in teaching and learning because they are ineffective.

- The theory revolutionized teaching and learning by introducing teaching machines and computer-assisted instructions to replace the teacher-centered classroom instruction.
- Teachers should also use different things affordable to them to motivate students towards class activities.

In conclusion, from what has been discussed above it should be clear that behaviorists learning theorist is very effective when applied appropriately in teaching and learning situation. Therefore learning material should be arranged from simple to most complex to promote effective learning. Teachers needs to link new information to familiar information. Learner need to be motivated by arousing their interest and curiosity and above all rewards their good actions.

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