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LEARNING THEORY OF PAVLOV: IMPLICATION FOR HUMAN CAPACITY BUILDING
IN NIGERIA

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ABSTRACT

This paper critically examines the learning theory of Pavlov (1849- 1936) with a view to discover its worth on learning process. From the analysis of the theory, it was discovered that many aspects of learning has to do with the ability to discriminate or classify ideas ,objects, feelings , etc, in the same it had been noted that in area of disruptive behaviour, extinction procedure and conditioning of incompatible responses or stimuli could be used to destroy undesirable behaviours.

KEY WORDS

Unconditioned Stimulus, Conditioned Stimulus, Unconditioned Response, Conditioned Response, Stimulus Generalization and Discrimination.

INTRODUCTION

Alder (1962) stated that the complexity of learning has led to various theories propounded by scholars to describe and explain learning. However, despite these theoretical differences, scholars of learning have one thing in common. It is the "urge to systematize and organize what is known about learning". Champlin (1985) p-102.

Chauhan (1981) defines theory as a generalization of related scientific principles that explains some scientific or observed behaviour. It is a systematic or coherent set of ideas, principles or laws proposed to further the understanding, control and prediction of a natural phenomenon.

Theories of learning could, thus, be seen "as distinctive sets of ideas, principles and laws that facilitate the understanding of the processes and conditions of learning". Haward (1975) p.15. These theories are derived from two main sources which are: Human Studies and Animal Studies. In the human studies, the study carried out by scholars like Ebbinghaus, Watson, Lashley, Swift (1840, 1852, 1855, 1856) among others. This researchers dealt mainly with verbal learning, human salivary and emotional conditioning and complex perceptual-motor skills. In the animal studies carried out by some scholars like Thorndike, Pavlov and Skinner amongst others. They mainly dwelt

STAGE 2: Condition Stage: Food * Unconditional Stimulus (U.C.S.)
Plus Tuning Fork *Conditional Stimulus
(C.S)
Salivation *(C.R.) requires repeated pairing.

STAGE 3: Conditioned Stage: Tuning Fork * Conditional Stimulus (CS),
Salivation *Conditional Response (C.R.)

Pavlov, from his experimental procedures above, he observed that after repeated pairing a tuning fork with food, the tuning fork which is neutral and unrelated to food was able to make the dog salivate. This he referred to as classical conditioning, which is defined as a process or training where a person or animal is made to respond to a conditional stimulus (CS) the way he/it would have responded to an unconditional stimulus (UCS) (food) as a result of constant or repeated pairing or matching of the two. This is often called respondent conditioning because it is the response that is conditioned on the basis of the continuous appearance of both the (UCS) and (CS). This type of learning is also referred to as stimulus substitution learning because the food (UCS) is substituted by the tuning fork (CS) as a basis for response (CR).

EXPLANATION OF LEARNING

According to Pavlov (1849), learning is principally the result of conditioning. It is a consequence of a set or series of experiences that involves the repeated continuous presentation of an (UCS) with a (CS).

PAVLOV'S FINDINGS

"His findings that have practical bearing or relevance to human learning include the followings:" Mukerjee, (1978) p.70-89.

Higher-Order Conditioning

Pavlov in his experiment, dealt with one neutral stimulus i.e. the tuning fork. If however and additional conditional stimulus is paired e.g. a bell with the tuning fork and food, the dog salivate in the presence of the bell alone. The conditioning in this respect is called higher or second order conditioning. It is also called compound conditioning. However, the conditioned response to the new (CS) i.e. a bell will not be as strong as that of the original (CS) i.e. turning fork.

Stimulus Generalization and Discrimination

A dog which had been conditioned to salivate in the presence of a particular bell, will salivate in response to all bells irrespective of their sizes, colour, magnitude, pitch etc provided the food follows. However, the closer the bell looks like the conditioned stimulus (CS) i.e. (the original bell in the experiment) the more the salivation, the further away

the less the salivation. This is referred to as stimulus generalization. In the same vein, a dog could be conditioned to salivate only in the presence of a small white bell rather than all bells. If the white bell is accompanied by food and it only salivate to it (small white bell + food only) then the ability to discriminate this small white bell out of many others of different colours is developed. This selection is referred to as stimulus discrimination.

Extinction and Spontaneous Recovery

An achieved conditioned response may disappear or become extinct. This could result when for so long the conditioned stimulus (CS) is not accompanied by the unconditioned stimulus (UCS). Similarly, a dog will cease to salivate (CR) in the presence of a bell (CS) if for sometime it is not accompanied by food (UCS). Extinction, therefore, "is the process of eliminating a conditioned response (CR) by omitting the unconditioned stimulus (UCS)". Skinner (1975) p.78-19. This shows that the unconditioned stimulus had been presented at a critical period once in a while if the result of conditioning (i.e. CR) is to be maintained.

Nonetheless, the extinction of conditioned response (CR) does not kill responses as such. If the CS and UCS are reintroduced after extinction, the CR will suddenly reappear as strong and verile as it was before the extinction. This is referred to as spontaneous recovery. I

however, the extinction allowed to lie fallow for too long a time, the CR will totally disappear.

IMPLICATION OF PAVLOV LEARNING THEORY FOR EDUCATION

From the proceedings, it can be deduced that the importance of Pavlov theory on learning cannot be overemphasized. The contributions and its applications in our educational system especially in Nigeria could be as follows:

1. Many spheres of learning have to do with the ability to discriminate or classify ideas, objects, feelings, materials, facts etc. A learner has to discriminate between arithmetic symbols, or operations like; +, -, ÷, >, <, ± etc or alphabets like A, B, C, D, etc. similarly, a learner may be required to categorise or classify things, objects, words, ideas etc according to certain rules, order, pattern for the purpose of responding to them in a particular or appropriate manner. Thus he may now apply his past experience on a dissimilar area of learning. These calls for the use of stimulus and response generalization or discrimination.
2. In the aspect of disruptive behaviour, extinction procedure and conditioning of incompatible responses or stimulus could be used to destroy undesirable behaviour.

3. Pavlov, in Johnson (1979) gave credence to internal and external environmental stimulation as being a crucial determinant of learning. This calls for urgent measures in the study and analysis of the learning environment of learners in order to create a suitable atmosphere where learning will be effective to achieve the desired goals of education.
4. Pavlovⁱⁿ Durojaiye (1976) explains that learning theory provides a clear picture of how the various stimuli in our environment are associated with neutral, painful or pleasant events. In the case of pain the (CS) serves as a signal.

RECOMMENDATION

From the above, it is possible to conclude that the ideal method of learning should be the conditioning of stimulus, provision of appropriate environment conducive for learning and lastly the remuneration of teachers and proper training of staff.

CONCLUSION

In the light of the above findings it may be possible to conclude that this theory of learning is germane to this present day system of education viz-a-viz the ^{introduction} and use of 'OMR' system of evaluating student academic performance in some universities of Nigeria today.

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