NATIONAL OPEN UNIVERSITY OF NIGERIA

EDU 822

Advanced Psychology of Learning

Module 2

EDU 822 Advanced Psychology of Learning
Module 2

Course Developer/Writer
Dr. J. Okoza, National Open University of Nigeria

Programme Leader
Prof. U.S.A Osuji, National Open University of Nigeria

Credits of cover-photo: Henry Ude, National Open University of Nigeria

National Open University of Nigeria - University Village, 91 Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi Abuja, Nigeria

www.nou.edu.ng centralinfo@nou.edu.ng
oer.nou.edu.ng oerunit@noun.edu.ng OER repository
Published in 2021, by the National Open University of Nigeria

How to re-use and attribute this content

Under this license, any user of this textbook or the textbook contents herein must provide proper attribution as follows: "First produced by the National Open University of Nigeria" and include the NOUN Logo and the cover of the publication. The repository has a version of the course available in ODT-format for re-use.

If you use this course material as a bibliographic reference, then you should cite it as follows: "Course code: Course Title, Module Number, National Open University of Nigeria, [year of publication] at nouonline.net

If you redistribute this textbook in a print format, in whole or part, then you must include the information in this section and give on every physical page the following attribution: Downloaded for free as an Open Educational Resource at nouonline.net If you electronically redistribute part of this textbook, in whole or part, then you must retain in every digital file (including but not limited to EPUB, PDF, ODT and HTML) the following attribution:

Module 2

Unit 1 The Theories of Learning: Ivan Pavlon

1.0 Introduction

Theories are the foundations for most of the discoveries in psychology. Several learning theories have since been developed to explain how the learners respond to particular stimuli under certain influences. In this unit, you are exposed to classical conditioning theory of Ivan Pavlov and its implications to teaching-learning activities.

2.0 Objectives

At the end of this unit, you should be able to:

- define learning theories
- explain the meaning of classical conditioning theory of Ivan Pavlov
- discuss the classroom implications of classical conditioning theory.

3.0 Main Content

3.1 Learning Theories

A theory is a set of generalized statements supported by experimental evidence. Marx (1971) defines theory as a provisional explanatory proposition or set of propositions, concerning some natural phenomena.

A theory is based on the preliminary findings of previous researchers. Several theories have therefore evolved about how people learn, while some theories are better than others in explaining types of learning.

However, no particular or single theory is sufficient to explain how all learning takes place. Some of these theories are explained below:

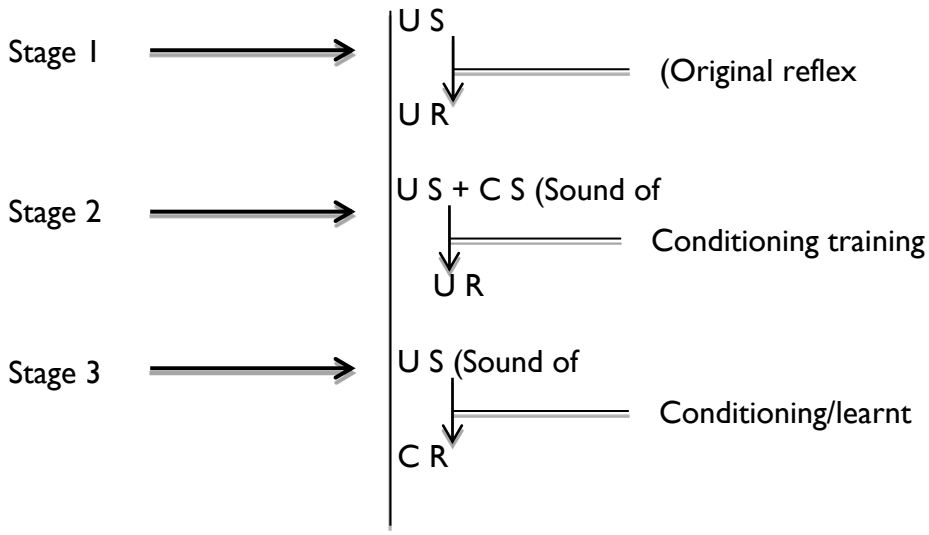
Classical Conditioning of Ivan Pavlov

Ivan Pavlov (1849-1936), was a renowned Russian Psychologist. He propounded the theory of classical conditioning in learning. Classical conditioning theory explains how an organism's behaviour becomes paired with some stimuli/factors in the environment. This theory, sometimes referred to as "stimulus-substitution", represents a condition where through contiguity and repetition in a presentation of a stimulus, a learner generalizes an existing stimulus-response connection to some new stimuli.

The focus of this theory is on a pattern of learning where the catalyst for behaviour change is, what precedes behaviour (Biggs and Shermis, 1992, Ney, 1981). The theory was based on the fact that unconditioned stimulus would originally produce unconditioned response. For example, Pavlov believed that the food (U S) would naturally produce salivation (U R) in dog. This kind of reaction or response was referred to as unlearnt reflex action. He went further

to say that when U S (food) is paired with the sound of bell (C S) i.e. conditioned stimulus, the dog would produce salivation (U R). This is what he called the conditioning stage. At another stage, U S was removed leaving C S alone. After the experiment, the dog produced conditioned response (C R) salivation.

This stage of learning could be referred to as manifestation of conditioned response (learnt behaviour). Thus, the experiment is summarized below with these graphic illustrations:



From the above illustrations the following revelations were made:

1. That when U S alone was presented to the dog, the dog only produced U R. i.e. the behaviour of the organism was a reflex or natural one.
2. By the time the U S was associated with C S (bell), the dog started to condition itself to the sound of bell.
3. When C S alone was presented to the dog, it had already conditioned its response to the sound of the bell, hence, conditioned response was emitted.
4. When bell was no longer accompanied with the food, the tendency of the dog to salivate gradually diminishes until it finally stopped (Extinction Stage).
5. To make the dog recover from extinction, it must be presented with U S again.

3.2 Implications of Pavlov's Theory to Classroom Situations

1. The theory believed that one must be able to practise and master a task effectively before embarking on another one. This means that a student needs to be able to respond to a particular stimulus (information) before he/she can be associated with a new one.
2. Teachers should know how to motivate their students to learn. They should be versatile with various strategies that can enhance effective participation of the students in the teaching-learning activities.
3. Most of the emotional responses can be learned through classical conditioning. A negative or positive response comes through the stimulus being paired with. For example, providing the necessary school material for primary school pupils will develop

good feelings about school and learning in them, while, punishment will discourage them from attending the school.

Self-Assessment Exercise

1. Define Classical Conditioning theory.
2. What is the meaning of Extinction Stage in Classical Conditioning?
3. Explain the meaning of Salivation in Pavlov's Theory of Classical Conditioning
4. What is the meaning of Unconditioned Response in Pavlov's Theory?

4.0 Conclusion

It is believed that the learners and more importantly the teachers have greatly benefited from this theory. The teachers should be familiar with this theory and apply it to teaching-learning activities where applicable.

5.0 Summary

A theory is a set of generalized statements supported by experimental evidence. Classical conditioning theory was formulated by Ivan Pavlov and the basic tenet of the theory is that behaviour of an organism can be manipulated using some environmental factors. The key relevance of theory to the learning is: it emphasizes practice of one task before moving on to another and encourages the use of motivation for effective learning.

6.0 Self-Assessment Exercise

1. What do you understand by Classical Conditioning Theory?
2. Write short notes on the following:

- Conditioned Stimulus
- Conditioned Response
- Unconditioned Response.

3. What are the implications of Classical Conditioning on the students' learning?

7.0 References/Further Reading

Ayeni, O. (1991). *Psychology of Human Learning for Teachers.* Ilesa: College of Education.

Crowl, T.K., Kaminsky, S., Podell, D.M., (1997). *Educational Psychology Windows on Teaching.* Chicago: Brown and Benchmark Publishers.

Eggen, P. & Kauchak, D. (2001). *Educational Psychology*: *Windows on Classrooms.* Columbus: Merrill Prentice Hall.

Oladele, J. O. (1998). *Fundamentals of Educational Psychology.* Yaba: Johns-Lad Publishers Ltd.

Onyehalu, A.S (1988). *Psychological Foundations of Education*. Awka: Meks-Unique (Nig.) Publishers.

Unit 2 B. F. Skinner's Instrumental Conditioning

1.0 Introduction

In this unit, you are to learn about Instrumental/operant conditioning theory of B.F. Skinner. Skinner revealed in his theory that to understand behaviour of an organism, the researcher must manipulate both its behaviour and observable events in a confined setting.

2.0 Objectives

At the end of this unit, learners should be able to:

- describe instrumental/operant conditioning
- list the implications of instrumental/operant conditioning theory to the classroom situations.

3.0 Main Content

3.1 B.F. Skinner Theory of Instrumental or Operant Conditioning

Instrumental conditioning theory of learning was formulated by B.F. Skinner. Who was an American Psychologist. His theory came based on the lapses discovered in the classical conditioning theory. Skinner believed that classical conditioning explained only how behaviour that has already been acquired can occur in the presence of a new stimulus (Iversen, 1992). Operant or instrumental conditioning, however, believed that most learning consist of acquiring new behaviour. He believed that behaviour is an outcome of response that follows the action. The learner will possibly repeat the action or a particular behaviour if it is followed/ rewarded with a pleasant consequence (positive reinforcement).

Skinner explained the two types of responses in his theory. One can be elicited only by the stimulus or information an individual acquires at a particular period (reflex response). For example, stepping on a sharp object or touching a hot metal will originally make someone to produce reflex response.

The second type is the response that an individual elicits following his/her own decision. This type of response is called operant conditioning. It is based on the fact that behaviour operates upon the environment to generate its own response. This operant behaviour emits voluntary response. Operant conditioning believes that behavioural responses become connected to environmental stimuli largely as a result of what happens after the response occurs.

To establish his claims, Skinner performed many experiments with pigeons and white rats in the laboratory. He constructed a box (Skinner box) with a small lever inside it. The lever releases food to the animals whenever the lever is pressed. In one of the experiments, an hungry rat is placed in the box and if the rat presses the lever, the food would drop for it. The lever in this box is mechanically connected to a device that automatically records every attempt the rat made.

In the box the rat moved around tirelessly and each time the lever is pressed, the food falls for the rat. The rat becomes persistent in pressing the lever so that the food could fall. The food that comes down for the rat reinforces its action; this lever pressing becomes a conditioned response for the rat.

In contrast, if the food is not accompanied with the pressing of lever, the number of presses would fall gradually to the lowest point. In this type of theory, it is the result or consequence of a behaviour that makes that behaviour more likely to be repeated on learned. If the result of behaviour is gratifying, one is likely to respond the same way the next time one encounters that stimulus. In the above experiment, the pressing of lever becomes instrument (instrumental).

Skinner in this theory identified the two types of reinforcers, they are positive and negative reinforcers. The stimulus that occurs after a response is called a reinforcer. Giving a pleasant or complimentary remark to a student for scoring a good mark in an assignment or homework is a positive reinforcer.

By this action, it is likely that such a student will want to continue doing his/her assignment promptly. However, the student who receives punishment for misbehaving in the classroom is not likely to repeat the action for which he/she has received unpleasant/negative reward.

3.2 Classroom Implications of Instrumental/Operant Conditioning Theory

The teacher should know that the environment or the conditions in which the students learn are very significant to the learning outcomes, hence, the teacher should provide conducive learning environment and conditions for his/her students.

1. Reinforcement is an essential factor if the students must perform well in a given task. To this end, the teacher should not neglect the use of motivation that can adequately propel the students into actions.
2. If a student engages in a disruptive behaviour, the teacher should not reinforce such a behaviour rather, he/she should endeavour to tell such a student the dare consequence of that action.
3. When there is interference in the transfer of experiences by the learners, the teacher may use explanations and reinforcement to strengthen the desired facts and weaken the undesired one.

Self-Assessment Exercise

1. Itemize and discuss main features of Operant Conditioning Theory.
2. What are the contributions of Skinner's Theory to educational process?
3. Write short notes on the following:

- Reflex Response
- Reinforcement
- Schedule of Reinforcement.

4.0 Conclusion

This unit has discussed the meaning of Instrumental/ Operant Conditioning of B.F. Skinner. It mentioned the two major types of responses, the relevance of reinforcement as well as

punishment to students' learning. Also, the implications of the theory to educational settings were discussed.

5.0 Summary

The Instrumental/Operant Conditioning of Skinner revealed that behaviour is an outcome of response that follows the action. Skinner believed that responses are divided into two. These are the involuntary behaviour and operant response i.e. the behaviour that is dictated by the learner's interaction with his/her environment. The relevance of reinforcement/motivation and punishment to students learning is also discussed in this unit.

6.0 Self-Assessment Exercise

1. Explain Instrumental Theory of B.F. Skinner.
2. Describe one of the experiments in Skinner's Instrumental Theory.
3. How is Skinner's Theory relevant to teaching/learning activities?

7.0 References/Further Reading

Ayeni, O. (1991). *Psychology of Human Learning for Teachers*. Ilesa: College of Education.

Burns, R. (1995). *The Adult Learner at Work.* Sydney. *Business and Professional* Publishing Ltd.

Crowl, T.K., Kaminsky, S., & Podell, D.M. (1997). *Educational Psychology: Windows on Teaching*. Chicago: Brown and Benchmark Publishers.

Iversen, I.H. (1992). *Skinner's Early Research: From Reflexology to Operant Conditioning.* American Psychologist, 47,1318-1328.

Oladele, J. O. (1998). *Fundamentals of Educational Psychology.* Yaba: Johns-Lad Publishers Ltd.

Onyehalu, A.S (1988). *Psychological Foundations of Education.* Awka: Meks-Unique (Nig.) Publishers.

Unit 3 Edward Bandura's Social Learning Theory

1.0 Introduction

In this unit, you will learn about Albert Bandura's theory of social learning. The Bandura's theory focused on the behaviour of individual and groups and how behaviour is affected by the presence or influence of other people.

2.0 Objectives

At the end of this unit, learners should be able to:

- explain social learning theory
- discuss the implications of the social learning theory on the classroom situations.

3.0 Main Content

3.1 Social Learning Theory of Albert Bandura

Albert Bandura is noted as one of the exponents of theory of social learning and observational learning. Social learning theory explains human behaviour from the point of continuous reciprocal interaction between cognitive, behavioural and environmental influences.

For social learning theory to take place, there are four factors which must be present. These are observers (learners), teacher (model), learners' attention and proximity or nearness. The process of learning is influenced by the extent of identifications and imitations by the learners to the other three factors (Bandura, 1978).

In most cases, an individual will like to emulate a model who is perceived to be competent, powerful, and attractive, as well as someone whose behaviour is relevant to the observer (Bandura, 1986). This means that we learn by observing the behaviour of others (Miller & Dollard, 1941).

In social learning theory, reinforcement is not a prerequisite for alearning to occur, but this increases the chance that what has been learnt

will definitely be performed. This theory is therefore rested on the fact that an action or behaviour can be performed if the model is pleasantly rewarded. It is also believed that there is probability that an observer might drop a behaviour if he found out that the model has received a negative reinforcement for practicing such a behaviour.

3.2 Classroom Implications of Social Learning Theory

1. The teacher is a model for students in his/her classroom, and he/she has a profound effect on students' attitudes, beliefs and behaviour (Crowl, Kaminsiky and Podell, 1997). In this case, the teacher should be a good model.

2. The teacher should always make sure that he/she does not condone any irrational behaviour from his/her students. Any offending student should be appropriately dealt with, so as to serve as a deterrent to other members of the classroom.
3. The teacher should not forget to give complimentary remarks such as "well done", excellent", "good boy/girl," "keep it up", as a way of encouraging other students to imitate a good behaviour.
4. Teacher/parents should discourage their students/children from watching violent films or keeping friends of doubtful characters.

Self-Assessment Exercise

1. Write shorts notes on Albert Bandura
2. What distinguishes Social Learning Theory from Operant Conditioning theory?
3. What is the usefulness of Reinforcement and Sanction in Social Learning theory?

4.0 Conclusion

This unit has explained the meaning of social learning theory and factors that must be present for observational learning to take place. It also considered the educational implications of the theory.

5.0 Summary

Social learning theory explains human behaviour from the point of continuous reciprocal interaction between cognitive, behavioural and environmental influences. The teacher should be a good model to his/her students, and he should not take boisterous behaviour of his/her students with levity.

6.0 Self-Assessment Exercise

1. Describe social learning theory.
2. Explain how you will apply social learning principles to the classroom situations.

7.0 References/Further Reading

Ayeni, O. (1991). *Psychology of Human Learning for Teachers.* Ilesa: College of Education.

Bandura, A. (1978). *Social Learning Theory*. New York: General Learning Press

Bandura, A. (1986). *Social Foundations of Thought and Action*: *A Social Cognitive Theory*. Upper Saddle River, NJ: Prentice-Hall

Crowl, T.K., Kaminsky, S., & Podell, D.M., (1997). *Educational Psychology: Windows on Teaching*. Chicago: Brown and Benchmark Publishers.

Miller & Dollar (1941). *Social Learning and Imitation*. Haven NJ: Yale University Press.

Oladele, J. O. (1998). *Fundamentals of Educational Psychology*. Yaba: Johns-Lad Publishers Ltd.

Onyehalu, A.S. (1988). *Psychological Foundations of Education*. Awka: Meks-Unique (Nig.) Publishers.

Unit 4 The Theory Of Connectionism

1.0 Introduction

In this unit, you will read the major three laws propounded by Thorndike on connectionism. He reveals that the foundation of learning is the association between sense impressions and impulses to action. The implications of the theory are also discussed.

2.0 Objectives

At the end of this unit, you should be able to:

- describe theory of Connectionism of Thorndike
- enumerate the relevance of Connectionism theory to the learners.

3.0 Main Content

3.1 Connectionism Theory of Edward Thorndike

Edward Thorndike was an American psychologist. Who lived between 1884 and 1949. Thorndike titled his theory "Connectionism". He derived this theory by using cats, puzzle box and food.

According to Thorndike, the fundamental of learning is the association between sense impressions and impulses to action (stimuli and responses). These associations become strengthened, or weakened by the nature and frequency of the stimuli-responses pairings. This means that an organism will repeat the behaviour if it obtains a pleasant or satisfying stimulus after first demonstrating it. He therefore postulated that learning in an organism involves the act of selecting the most appropriate response and associating it with specific problems or stimuli. Thorndike then described this type of theory as learning by "trial and error" or "trial and success".

In arriving at this theory, a cat was put in a puzzle box, with food outside it. The logic was that the cat has to escape before it could get the food. There was a release mechanism inside which the cat would operate before it could get outside. In the process, the cat made a series of effort to get outside. Eventually, it succeeded in operating the mechanism, which paved way for its escape and obtaining the food. On the subsequent attempt, the random movement was reduced, and the cat concentrated much on the direction of the release mechanism until it was able to escape again. The help of the "release mechanism" made it possible for the cat to succeed in its escape, hence this type of learning is also known as "instrumental conditioning".

3.2 The Laws of Thorndike

In line with the experiment performed above, Thorndike came up with a set of laws which are believed to be responsible for learning in organisms. These are the laws of readiness, exercises and effect.

Law of Readiness: This law emphasizes the desire/zeal of an organism to perform an action. It is the physiological condition of an individual to embark on a task. Since someone has been motivated to carry out an action, doing it at that point satisfies the actor and not discouraging him.

Law of Exercises: This refers to strengthening or weakening of an event. Thorndike explained that repetition promotes learned associations, (Stimulus and response). Constant practice is necessary if an action is to be strengthened. Lack of practice may weaken an event.

Law of Effect: This refers to the consequence which an animal obtains for an action performed. It is the outcome of a response. Thorndike believed that any act that produces a satisfying effect will be repeated.

3.3 Classroom implications of Thorndike's Theory

1. The teacher should know that the students learn better when their needs and interests are considered, hence the teacher should ensure that the learning activities revolve around the students.
2. Readiness is a prerequisite for learning; the teacher is therefore advised to consider the mental or cognitive capability of the learners when planning the curriculum or instructional contents.
3. The teacher should recognize the fact that the students will like to repeat the actions for which they received positive regards. Hence, the teacher should always use various motivational strategies to sustain the interest of the students in the classroom.
4. The teacher should always present his/her materials in a logical and more coherent way. This is the major way of arresting and sustaining the interest of the learners in pedagogical activities.
5. The teacher should consider the use of punishment as a last option in reducing the undesirable behaviour in his /her classroom. This is because the punishment can not actually address the problem it
6. rather makes the students to be more violent in the classroom.
7. The teacher should recognize the important of exercises or practice in the learning process. Learning may not occur unless practice is reinforced (Hull, 1943). This means that the teacher should engage his/her students in assignment or homework, if meaningful learning must be achieved.

Self-Assessment Exercise

1. What is the relevance of Law of Effect on student's learning?
2. Justify the statement that reward is more effective in behaviour modification than punishment.
3. List six contributions of Thorndike's Theory to classroom situations.

4.0 Conclusion

This unit has dealt with the nature of theory of connectionism aspropounded by Thorndike. It is believed that you must have understood the importance of readiness, exercises and effect or consequence on the learning process.

5.0 Summary

Thorndike's theory emphasizes that the fundamental of learning is the association between sense impressions and impulses to action (stimuli and responses). The theory stresses readiness, exercises and effect as the conditions for learning.

6.0 Self-Assessment Exercise

1. Describe Thorndike's law of readiness, exercises and effect.
2. State the importance of these laws.

7.0 References/Further Reading

Ayeni, O. (1991). *Psychology of Human Learning for Teachers.* Ilesa: College of Education.

Crowl, T.K., Kaminsky, S., & Podell, D.M., (1997). *Educational Psychology: Windows on Teaching*. Chicago: Brown and Benchmark Publishers.

Hull, C.L. (1943). *Principles of Behaviour.* New York: Appleton-Century, Crofts.

Oladele, J. O. (1998). *Fundamentals of Educational Psychology*. Yaba: Johns-Lad Publishers Ltd.

Onyehalu, A.S (1988). *Psychological Foundations of Education.* Awka: Meks-Unique (Nig.) Publishers.

Thorndike, E. (1913). *Educational Psychology*: *The Psychology of Learning.* New York: Teachers College Press.

Unit 5 Gestalt/Cognitive Fields of Learning

1.0 Introduction

Cognitive Field or Gestalt theory was formulated by a group of German Psychologists. The theory emphasizes insightful learning rather than mechanical conditioning. It is believed that meaningful learning can only take place through a sequence of problem-solving approach. In this unit, you will learn how learning takes place through the application of logical principles and previous experience.

2.0 Objectives

At the end of this unit, you should be able to:

- describe Cognitive Field theory of learning
- enumerate the importance of cognitive theory on the learners
- differentiate between Behaviourists and Gestalt theory.

3.0 Main Content

3.1 Cognitive Field Theory of Learning

The views of many theorists were collected by Gestalt to formulate a cognitive field theory. Notable among them were Max Wertheimer, Kurt Koffka, and Wolfgang Kohler. Gestalt in German language means "organization or fusion". This theory rejected the views that consider the learning process in an isolated form rather than in a total or holistic form. The theory does not support associating bits of experiences as postulated in the stimulus-response theories.

This theory is of the opinion that parts are configured or organized to make complete or meaningful experiences or impressions. The emphasis here is on the importance of experience, meaning, problem solving and the development of insights (Burns 1995). The Gestalt therefore placed more credence on insightful learning rather than trial and error like that of Thorndike or mechanical conditioning as performed by Ivan Pavlov in his classical conditioning theory.

Insightful learning is hinged on the fact that animals undergo a series of problem-solving approach following a sequence of principles or logic and previous experience before arriving at a solution. In this theory, the cognitive or mental processes of the animals are regarded as the yardstick in the development of insightful learning.

To establish this fact, Gestalt Psychologists performed several experiments using apes as subjects. In one of the experiments, an ape (Sultan) was put in a cage. This sultan was very intelligent. In the cage was a stool and banana, hung on the top of the box. Initially, several unsuccessful attempts were made by the apes to get the banana.

Suddenly, sultan decided to pull out the stool and climbed it to pluck the banana from where it was hung. This type of learning is called insightful, because it involves problem-solving approach.

Another experiment was performed with several apes including sultan, put in the box with a banana and a stick lying outside the cage. Several experimental apes stretched their hands to pick the banana from outside but were unsuccessful. The brilliant one among them (sultan) devised a solution by picking the stick outside first and using it to draw the banana closer until its hand touched the banana.

The last experiment performed by Kohler on this insightful learning, was an extension of the second experiment. In this case, the apes were put in the cage; banana and two sticks (long and short) were lying outside. None of these two sticks could get to the banana unless by joining them together. The apes in the box made series of attempts to rake in the banana with the two sticks separately without succeeding. It was sultan who later manipulated and fixed the two sticks together before it could finally collect the banana. All these experiments indicated that learning cannot take place in a segregated way but in a complete form.

Insightful learning therefore adopts the following strategies in learning:

- identify and define the problem or task;
- formulate the hypotheses;
- come out with different solutions;
- select /implement the viable solution; and
- evaluate / appraise the selected solution or revisit the problem.

3.2 Classroom Implications of Gestalt Theory

1. This theory has developed the concept that learners have different needs and concerns at different times, and that they have subjective interpretations in different contexts (Burns, 1995).
2. The teacher should realize the importance of instructional aids during teaching–learning activities, hence he/she should make use of teaching aids for a meaningful learning in the classroom.
3. The teacher should make his/her teaching more participatory to the students. It is on this basis that the teacher will be able to discover the hidden talents in his/her students.
4. If the classroom experiences of the students are related, students will be able to transfer the gained experience into future learning. This will then promote interrelatedness.
5. The teacher should not neglect the use of motivational strategies in teaching –learning activities. This reinforcement will stimulate the efforts of the students in the classroom.

Self-Assessment Exercise

1. What are the advantages of Gestalt Theory over Classical Conditioning Theory?
2. Explain any five features of Gestalt Theory.
3. Discuss the steps you will take when applying Gestalt Theory in problem-solving process.
4. With reference to Gestalt Theory, explain how Educational Psychology can improve a student's performance.

Table 1: Differences between Behaviourists and Gestalt Theories of Learning

Behaviourists Theories	Gestalt Theories
1. Response is programmed i.e. mechanical	Response is systematic and organized in cognitive structure.
2. Thislearning takes place through trial and error or trial and success	The learning process is based on the problem-solving approach
3. Learning is temporal. Extinction can set in if the learning is not reinforced	Learning is permanent. Experience gained and can be used or transferred into another related task.
4. The result or outcome is the ultimate of the behaviourists	Gestaltare more interested in processes and justification of a task.
5. In this type of learning, learner becomes onlooker (passive) while he is being manipulated or subjected to a particular condition.	The learner plays an active part in gestalt learning. The learner is involved in finding out the solutions to the problems being investigated.
6. This type of learning is simple. It is good for elementary learning	Gestalt learning is a complex one. It is good for higher thinking. It is good where the learner will have to reason logically and analytically before having a meaning solution to the problem.
7. Behaviourists believe more on teacher-centredness. Most of the processes to the solution are done by the teacher.	Cognitive theorists emphasize learner-centered approach. They believe in the "doing it you system.
8. There is no association or interrelatedness of the problems.	This theory organizes the problems so that the learners can know relationship between or among them. e.g. in one of the experime Gestalt placed banana and sticks side by side to show their relationship.

4.0 Conclusion

Gestalt theory is very important in learning. It advocates that learners learn best when they are provided with the opportunity to explore or find the solutions to the problems being discussed. The teachers are advised to make constant use of this theory in their classrooms teaching/learning activities.

5.0 Summary

Gestalt theory is of the opinion that parts are configured or organized to make complete or meaningful experiences or impressions. This learning process is based on the problem-solving approach. The theory emphasizes the use of motivation and students experience in learning.

6.0 Self-Assessment Exercise

1. Describe cognitive (Gestalt) theory of learning.
2. Distinguish between Behaviourist and Cognitive theory of learning.
3. Explain the implications of Gestalt theory on learning.

7.0 References/Further Reading

Ayeni, O. (1991). *Psychology of Human Learning for Teachers*. College of Education.

Burns, R. (1995). *The Adult Learner at Work.* Sydney: *Business and Professional* Publishing.

Crowl, T.K., Kaminsky, S., Podell, D.M., (1997). *Educational Psychology*: *Windows on Teaching*. Chicago: Brown and Benchmark Publishers.

Hilgard, E.R. (1966). *Theories of Learning*. New York: Appleton-Century.

Oladele, J. O. (1998). *Fundamentals of Educational Psychology*. Yaba: Johns-Lad Publishers Ltd.

Onyehalu, A.S. (1988). *Psychological Foundations of Education*. Awka: Meks-Unique (Nig.) Publishers.

Unit 6 Edward Tolman and Benjamin Bloom's Theories of Learning'

1.0 Introduction

One of the importance of sign learning of Edward Tolman is about how the individual can use the environmental factors to obtain a goal. It is a goal-oriented learning. Bloom also formulated three leaning domains i.e. cognitive, affective and psycho-motor. You will learn these in this unit.

2.0 Objectives

At the end of this unit, learners should be able to:

- define cognitive or sign learning of Tolman
- explain Blooms' types of learning.

3.0 Main Content

3.1 Cognitive or sign Learning of Edward C. Tolman

Tolman lived between 1886 and 1959. He was an American Psychologist. His theory was made up of unharmonised facts collected from different theorists. Hilgard et al (1971) defined sign learning as an acquired expectation that one stimulus will be followed in a particular context. Tolman made use of rats and mazes in his experiments. The motive of sign learning is the ultimate goal i.e. "What leads to what" (Purposive behaviourism). This may explain why a rat in Tolman's experiment decided to run through a complex maze to develop a kind of cognitive structure or map that led it to its goal.

Tolman's theory emphasized the association between the stimuli rather than stimulus-response. For Tolman, learning does not depend on reinforcement nor reward, however, these must enter the picture (be in focus) if learning is to be manifested in performance. In explaining this theory, five types of learning are adopted; these are approach, escape, avoidance, choice-point and latent. These learning types are based on the fact that learning is always purposive and goal oriented, involve the use of environmental factors to obtain a goal, and that an organism will prefer to take the shortest or easiest way to achieve a goal.

3.2 Bloom's Types of Learning

Benjamin Bloom (1956) developed three different levels of classifying learning outcomes or objectives. These are cognitive, affective and psycho-motor domains: these classifications are referred to as Bloom's taxonomy and the stages are divided from the simple to the complex. These stages assist the teacher in writing the objectives, designing the learning tasks or activities and also to prepare the assessments. These domains are:

Cognitive Domain

This deals with knowledge acquisition. It emphasizes the development of mental or intellectual skills. There are six categories of this and they range from the simplest to the most complex one.

Knowledge: Is the simplest learning outcome. It is expected that at the end of this learning task, a learner should be able to define, identify, mention, describe, list, state, name and label a previously learnt fact or information. Example of this is that at the end of this lesson, a learner should be able to mention categories of Bloom's taxonomy of learning.

Comprehension: This is the second level in cognitive domain. It is a level where the learners learn to understand, translate, summarizs, interpret, rewrite, predict or explain the facts, principles, concepts, tasks or information. At the end of this lesson, a student should be able to summarize all the three types of domain.

Application: At this level, the learners should be able to apply the previously gained experiences into new task, principles, information, rules and facts. Application may involve changing, operating manipulating, relating etc. For instance, at the end of this lesson, a student should be able to apply the knowledge gained in the study of Bloom's taxonomy into the classroom situation.

Analysis: This is the fourth stage in cognitive domain. It is the ability of the learners to distinguish, compare, contrast, relate, select or differentiate between the facts or making inferences.

Synthesis: Building or creating new tasks, facts, principles, logic, methods from constituent elements or diverse points. It is about putting parts together to form a whole, with emphasis on creating a new meaning or structure. Synthesis involves Examples are composition, compilation, explanation, modification, reconstruction, relating, rearranging, revision etc.

Evaluation: This is the ability of the learners to make judgment or pass comments about an event, information. It takes the form of assessment, defense, criticism, justification, relating, describing etc.

Affective Domain

This domain gives judgment about our emotion. It describes how we deal with our feelings, values, appreciation, attitudes or motivation. This domain is divided into five categories. These are:

Receiving Information or fact: This deals with how we receive information being passed onto us. It emphasizes our willingness to hear or listen to others.

Responding to Information: The level of responsiveness of the learners to learning tasks are judged in this area. It describes the willingness of the learners to respond to a given task satisfactorily. It is about how well the learners participate in the teaching-learning activities.

Valuing: This is the value a person attaches to a behaviour or phenomenon. Value is based on the internalization of a set of specified values, while the clues to these values are expressed in the learner's overt behaviour and are often identifiable.

Organization: This is the process of organizing values into priorities in order to compare them and decide on the most appropriate ones.

Internalizing Values: This means that individuals have values that are consistent, stable and are controlling them. These values which form the characteristics of people can therefore predict their behaviour.

Psycho-motor Domain

This level of domain is about physical skills. It deals with physical movement and coordination of an individual. These skills involve manipulation of fingers, legs and other parts of the body. Examples are cycling, dancing, running etc. Psycho-motor is divided into perception, set, guided response, mechanism, complex over response, adaptation and origination.

Self-Assessment Exercise

1. Differentiate between Sign Learning Theory of Tolman and Bloom's Types of Learning.
2. Think of a topic in your field. Discuss how you would evaluate your students on the six levels of Cognitive Domain.
3. What relevance has Sign Learning Theory on teaching/learning activities?
4. Explain the relationship between Cognitive and Affective Domains?

4.0 Conclusion

The two types of learning discussed in this unit are very significant in our teaching-learning activities because they allow teachers to plan their teaching and what the goals of the lesson will be. It is very important that teachers are conversant with these learning types and apply the principles in their daily classroom teaching/learning activities.

5.0 Summary

In this unit, learners have learnt about:

- Sign Learning of Edward Tolman
- Bloom's types of learning.

6.0 Self-Assessment Exercise

1. Explain the Sign Learning of Tolman?
2. What are the three levels of learning in Bloom's learning types?
3. What are the implications of each of the domains on teaching-learning activities?

7.0 References/Further Reading

Bloom, B. (1956). *Taxonomy of Educational Objectives*, Handbook: Cognitive Domain. New York: David McKay Co Inc.

Crowl, T.K., Kaminsky, S., & Podell, D.M. (1997). *Educational Psychology Windows on Teaching*. Chicago: Brown and Benchmark Publishers.

Hilgard, E.R., Atkinson, R.C. & Atkinson, R.L. (1971). *Introduction to Psychology.* New York: Harcourt Brace Jovanovich. Inc.

Oladele, J. O. (1998). *Fundamentals of Educational Psychology.* Yaba: Johns-Lad Publishers Ltd.

Onyehalu, A.S (1988). *Psychological Foundations of Education*. Awka: Meks-Unique (Nig.) Publishers.

Tolman, E.C. (1932). *Purposive Behaviour in Animals and Men.* New York: Appleton-Century-Crofts.