COURSE GUIDE

EDU 721
PSYCHOLOGY OF LEARNING

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Introduction

EDU721 Psychology of Learning is a semester, two-credit unit course. It is a compulsory course for all students in Postgraduate Degree Programme in Education (PGDE). As a Postgraduate Degree Student, one of the courses central to your profession is Psychology. This is because at the heart of every educational or instructional activity learning is expected to occur. Therefore, you need to equip yourself with major facts and how you can effectively apply these theories to ensure learning occurs. You need to study it with all seriousness.

The course is an important component in the programme of study that will enable you graduate. The course has been designed to consist three (3) modules of fifteen (15) units. It carries two (2) credit units.

The course EDU 721 is compulsory for all students undergoing a postgraduate
programme in Education. This is because it has been designed to give you a deeper understanding on the important aspect of education which is 'learning'. Studying the course well, implies that, you have attended to all your self-marked assignments and tutor-marked
assignments, and that you have the confidence to develop a good seminar paper you will be proud to present to other colleagues.

This course guide tells you briefly what to expect from reading the accompanying course study material. It provides you with information on how to make the best use of the materials so that you can achieve good success. Make sure you read it very carefully and pay attention to
the instructions and suggestions. I wish you the best as you explore and internalize this course.

What You Will Learn in this Course

This course, EDU 721, titled Psychology of Learning, has been specifically designed to refresh your memory and sharpen your understanding of the Psychology of Learning to the point that you should be able to discuss confidently on issues concerning human learning, especially learning in educational classroom environment. In this regard, the course would highlight the importance of investigations and research in resolving issues and challenges in the
study of Psychology through various theories.

- You will learn about the various methods of investigation in psychology which researchers adopt.
- You will learn about the thirteen strands that make up branches of psychology.

- You will learn how to ensure permanency in learning.
- More importantly you will be exposed to some ways that theories can be applied in classroom situations to make teaching and learning easy.

Course Aims

It is hoped that after your degree, you will rise to certain influential leadership position in the education sector, therefore the major aims of this course are:

(1) to refresh your memory on the concept of psychology;
(2) deepen your understanding of the psychology of learning;
(3) prepare you to be able to discuss coherently on any issue or matter relating to the psychology of learning or its application in classroom situations.

Course Objectives

By the end of this course EDU 721 Psychology of Learning, you will be able to select and discuss coherently through seminar presentations any topic in the area of psychology of learning. Specifically, you will be able to:

- define the concept of learning
- explain factors affecting learning
- demonstrate understanding of the five stages of learning process
- recognise the importance of Psychology of learning to the teacher
- identify five major theories of learning
- explain the basic concepts and principles relating to each of the theories of learning
- State, compare and contrast any two of the theories of learning
- discuss the implications of the theories of learning for classroom learning
- discuss how you can assist students in training their memory.
- demonstrate understanding of the classroom implications of transfer of learning
- describe the activities you will adopt to help your students retain information
- examine the nature of human motivation, explaining the techniques you can adopt to motivate students to perform well in learning activities
- demonstrate competence in managing classroom behaviour.

Working through the Course

To complete this course, you are required to read the study units, read books and other materials provided by the National Open University of Nigeria (NOUN). Each study unit contains Self-Assessment Exercises (SAEs) and Tutor-Marked Assignments (TMAs) and at each point in the course you are required to submit assignments for assessment purposes. In addition, you will be expected to prepare and present a seminar paper at the end of this course material. This will be graded to form part of your tutor-marked assessment. Certainly, there is an end of course final Examination.

You will also find listed all the components of the course, what you have to do and how you should allocate your time to each study unit in order to complete the course successfully and on time.

The Course Material

Major components of the course are:
1. Course Guide
2. Study Units
3. References
4. Presentation Schedule

Study Units
The study units in this course are as follows:

Module 1 Defining the Concepts of Psychology and Learning

Unit 1 Concept of Psychology
Unit 2 Branches of Psychology
Unit 3 Educational Psychology
Unit 4 Concepts of Learning and Psychology of Learning

Module 2 Theories of Learning and their Educational Implications

Unit 1 Overview of Learning Theories
Unit 2 Pavlov's Theory of Classical Conditioning
Unit 3 Skinner's Theory of Operant Conditioning
Unit 4 Thorndike's Theory of Connectionism
Unit 5 Bandura's Social Learning Theory
Unit 6 Gestalt/Cognitive Fields Theory of Learning
Unit 7 Edward Tolman and Benjamin Bloom's Theories of Learning

Module 3 Permanency in Learning

Unit 1 Retention in Learning: Memory, Remembering and Forgetting
Unit 2 Transfer of Learning
Unit 3 Motivation in Learning
Unit 4 Behaviour Modification in the Classroom

Presentation Schedule

The presentation schedule included in your course material gives you the important dates of this year for the completion of tutor-marked assignments and for attending tutorial. Also included is the date for the seminar. Remember, you are required to submit all your assignments by the due date. You should guard against falling behind in your work.

Assessment

There are three aspects of assessment of the course. First is a set of self-assessment
exercises (SAEs), second is a set of tutor-marked assignments (TMAs) which includes the presentation of a seminar paper. The third is a written end of semester examination.

In tackling the assignments, you are expected to be sincere in attempting the exercises; you are expected to apply the information, knowledge and techniques gathered during the course. The assignments must be submitted to your tutor against formal deadline stated in the presentation schedule and the assignment file. The work you submit to your tutor for assessment will make up 40% of your course work.

At the end of the course, you will need to sit for a final written examination of two hours' duration. This examination will make up the remaining 60% (postgraduate) of your course mark.

Tutor-Marked Assignment

There are tutor-marked assignments in this course. You are encouraged to submit all assignments. Assignment questions for the study units in this course are stated within the study units. You will be able to complete your assignments from the information and materials
contained in your reading, study units. However, it is desirable in all degree level academic programmes to demonstrate that you have read and researched more widely than the required minimum. Using other references will give you a broader viewpoint and may provide a deeper understanding of the subject. You can select the seminar topic you wish

to develop and present. However, it must be an aspect of the psychology of learning. Your seminar paper is a compulsory assignment.

When you have completed each assignment, send it together with a TMA (tutor-marked assignment) to your tutor. Make sure that each assignment reaches your tutor on or before the deadline given in the presentation schedule and assignment file. If, for any reason, you cannot complete your work on time, contact your tutor before the assignment is due to discuss the possibility of an extension. Extensions will not be granted after the due date unless in exceptional circumstances.

Final Examination and Grading

The final examination for Psychology of Learning will be of two hours' duration and it has a value of 70% of the total course grade. The examination will consist of questions which reflect the type of self-testing, practice-exercises and tutor marked assignments you have previously encountered. All areas of the course are assessed.

Use the time between finishing the last study unit and sitting for the examination to revise the entire course. You might find it useful to review your self-tests, tutor-marked assignments and comments on them before the examination. The final examination covers information from all parts of the course.

Course Marking Structure

The following table lays out how the actual course marking is done.

Assessment	30% (Undergraduate) 40% (Postgraduate)
Final Examination	70% ((Undergraduate) 60% (Postgraduate)
Total	100% of Course work

Table 1: Course Marking Structure

Course Overview

The table below brings together the study units, the number of weeks you should take to complete them, with the assignments that accompany them.

weeks you should take to complete them, with the assignments that accompany them.

Unit	Title of work	Time frame	End of Unit Assignment
	Course Guide	1 week	
Module 1: Defining the Concepts of Psychology and Learning			
1	Concept of Psychology	1 week	1st assignments
2	Branches of Psychology	1 week	2nd st assignments
3	Educational Psychology	1 week	3rd assignments
4	Concepts of Learning and Psychology of Learning Preparing Seminar Paper	1 week	4th assignments Seminar
Module 2: Theories of Learning and their Classroom Implications			
1	Overview of Learning Theories	1 week	
2	Pavlov's Theory of Classical Conditioning	1 week	5th assignments
3	Skinner's Theory of Operant Conditioning	1 week	6th assignments
4	Bandura's Social Learning Theory	1 week	7th assignments
5	Thorndike's Theory of Connectionism	1 week	8th assignments
6	Gestalt/Cognitive Fields Theory of Learning	1 week	9th assignments
7	Edward Tolman and Benjamin Bloom's Theories of Learning Prepare Seminar Paper	1 week	10th assignments Seminar
	Module 3: Permanency in Learning		
1	Retention in Learning	1 week	11th assignments
2	Transfer of Learning	1 week	12th assignments
3	Motivation in Learning	1 week	13th assignments
4	Behaviour Modification in the Classroom	1 week	14th assignments
	Prepare Seminar Paper	1 week	Present Seminar Paper
	Total	18 weeks	

Table II: Course Organiser

How to Get the Most from the Course

In Open and Distance Learning (ODL), the study units replace the University Lecture. This is one of the great advantages of ODL. You can read and work through specially designed study materials at your own pace, and at a time and place that suit you best. Think of it as reading the lecture. In the same way that the lecturer might set you some reading to do, the study units tell you when to read your other materials. Just as a lecturer might give you an in-class exercise, your study units provide exercises for you to do at appropriate points

Each of the study units follows a common format. The first item is an introduction to the subject matter of the study unit and how a particular study unit is integrated with the other study units and the course as a whole. Next is a set of learning objectives. These objectives let you know what you should be able to do by the time you have completed the study unit. You should use these objectives to guide your study. When you have finished the study unit, you must go back and check whether you have achieved the objectives or not. If you make a habit of doing this, you will significantly improve your chances of passing the course.

The main body of the study unit guides you through the required reading from other sources. This will usually be either from a reading section or some other sources. You will be directed when there is need for it.

Self-Assessment Exercise (SAEs) are interspersed throughout the units. Working through these SAEs will help you to achieve the objectives of the study units and prepare you for the assignments and examination.

You should do every SAE as you come to it in the study unit. The answers to these questions have been provided to serve as a guide. There will also be numerous examples given in the study units. Work through these when you come to them too.

The following is a practical strategy for working through the course. If you encounter any problem, telephone your tutor immediately. Remember, that your tutor’s job is to help you. When you need help, don’t hesitate to call and ask your tutor to provide it.

Read this course guide thoroughly.

Organise a study schedule: Refer to the course overview for more details. You should note that it is expected of you to devote at least 2 hours per week for studying this course. The number of hours to be devoted for intensive study stated above is outside other need driven academic activities like self-help, group discussion and instructional facilitation

Note the time you are expected to spend on each unit and how the assignments relate to study units. Important information e.g. details of your tutorials, and the date of the first day of the semester is available. You need to gather together all these information in one place, such as in your diary or a wall calendar. Whatever method you choose to use, you should write in your own dates for working on each unit.

Once you have created your own study schedule, do everything you can to stick to it. The major reason why students fail is that they get behind with their course work. If you get into difficulties with your schedule, please let your tutor know before it is too late for him to help you.

Turn to unit 1, read the introduction and the objectives for the unit.

Assemble the study materials. Information about what you need for a unit is given in the table of content at the beginning of each unit. You will almost always read both the study unit you are working on and one of the materials for further reading on your desk at the same time.

Work through the unit. The content of the unit itself has been arranged to provide a sequence for you to follow. As you work through the unit, you will be instructed to read sections from other sources. Use the unit to guide your reading.

Keep in mind that you will learn a lot by doing all your assignments carefully. They have been designed to help you meet the objectives of the course and, therefore, will help you pass the examination. Submit all assignments not later than the due date.

Review the objectives for each study unit to confirm that you have achieved them. If you feel unsure about any of the objectives, review the study materials or consult your tutor.

When you are confident that you have achieved a unit's objectives you can then start on the next unit. Proceed unit by unit through the course and to pace your study so that you keep yourself on schedule.

When you have submitted an assignment to your tutor for marking, do not wait until you get it back before starting on the next unit. Keep to your schedule. When the assignment is retuned, pay particular attention to your tutor's comments, both on the tutor-marked assignment form and also as written on the assignment itself. Consult your tutor as soon as possible if you have any questions or problems.

After completing the last unit, review the course and prepare yourself for the final examination. Check that you have achieved the unit

objectives (listed at the beginning of each unit) and the course objectives (listed in the course guide).

Facilitators/Tutors and Tutorials

There are 12 hours of tutorials provided in support of this course. You will be notified of the dates, time and location of these tutorials, together with the name and phone number of your facilitator/tutor, as soon as you are allocated a tutorial group.

Your tutor will mark and comment on your assignments. He will also keep a close watch on your progress and on any difficulties, you might encounter, and provide assistance to you during the course. You must mail your tutor-marked assignments to your tutor well before the due date (at least two working days are required). They will be marked by your tutor and returned to you as soon as possible.

Do not hesitate to contact your tutor by telephone, e-mail, or discussion if you need help. The following might be circumstances in which you would need help. Contact your tutor:

1) Do not understand any part of the study units or other assigned readings.
2) You have difficulty with the self – assessment exercise
3) Have a question or problem with an assignment, with your tutor's comments on an assignment or with the grading of an assignment.

You should try your best to attend the tutorials. This is your only chance to have a face-to-face academic contact with your tutor and to ask questions on problems encountered in the course you are studying. To gain the maximum benefit from course materials' tutorials, prepare a question list before attending them. You will learn a lot from participating in discussions actively.

Summary

This Course has refreshed your memory on the psychology of learning. The carefully organised units have also exposed you, to:

1. the importance of investigations and research in psychology;
2. various methods of investigation in psychology which researchers adopt;
3. the different branches of psychology;
4. the concept of learning
5. the various theories of learning and their classroom implications;
6. permanency in learning including,
7. the theory of transfer of learning; motivation, remembering and forgetting

8. behaviour modification strategies
9. More importantly, the course has sharpened your focus on learning at the classroom level by applying the psychological findings of researchers to improve learning. Happy Study!!

MAIN COURSE

CONTENTS

MODULE 1 DEFINING THE CONCEPTS OF PSYCHOLOGY AND LEARNING

This module introduces you to the concepts of psychology and learning. As student-teachers, you need to understand these concepts to enable a better understanding of your course. The topics under this module are structured into four study units as follows:

Module Structure

Unit 1 Concept of Psychology
Unit 2 Branches of Psychology
Unit 3 Educational Psychology
Unit 4 Concepts of Learning and Psychology of Learning

UNIT 1 CONCEPT OF PSYCHOLOGY

Unit Structure

1.1 Introduction

Have you ever wondered why people behave the way they do? Psychology as a branch of knowledge is devoted to the study of behaviour of human beings and animals. To this end, the relevance of psychology cannot be doubted, more importantly that the well-trained teachers will need it to understand the behaviour of their students in relation to the learning process. Psychologists use a number of methods and techniques to understand the nature of human behaviour. This is done by gathering and analysing information from which conclusions can be drawn. In this unit therefore, we shall be examining some of these scientific methods of investigation in psychology. Ability to understand various techniques of carrying out investigation in the field of psychology will equally assist the teachers in resolving emergent educational problems. All the points mentioned above are the focus of this unit.

1.2 Learning Outcomes

By the end of this unit, you will be able to:

- define the concept of psychology
- identify different scientific methods of investigation in psychology.

1.3 Definition of Psychology and its Methods of Investigation

1.3.1 Definition of Psychology

What is psychology? Psychology is the scientific study of the mind and behaviour. It is the study of the mind, how it works, and how it affects behaviour. A human being usually exhibits moods of joy and anger, have different learning ability and interact differently. When all these happen, we are eager in finding the circumstances that are surrounding these actions and make judgment in our own way. Psychology provides clues to these phenomena in a more scientific way. Therefore, Oladele (1998) describes psychology as a science subject which seeks to comprehend, predict and control the behaviour of man and lower animals. Psychology is premised on logical ways for knowing, explaining, controlling and improving behaviour. Psychologists attempt to find answers to (a) how human beings and animals receive stimuli from their environment and their perceptions about such stimuli (b) how organisms learn and remember experiences (d) how they differ in their characteristics and (d) cope with various problems in life in order to understand the complex nature of organism and to contribute to better standard of living of organisms.

Self-Assessment Exercises 1

1. What do you understand by the term Psychology?
2. Why do we need to study psychology?

1.3.2 Methods of Investigation in Psychology

In the earlier section of this unit, we were made to understand that psychology is the scientific study of human behavior. Psychologists use scientific methods to understand why people behave the way they do and develop principles and theories about them. In this section, we shall

discuss some of the scientific methods of investigation used by psychologists to understand the nature of human behaviour. Each method has its own advantages and disadvantages. These methods include,

- Survey method
- Test method
- Observational method
- Experimental method
- Case histories method
- Longitudinal method

Details of these methods are presented below:

1) Survey Method: This is one of the most widely used techniques in psychology. In this method the researcher uses questionnaire or interview to obtain data from their respondents. The survey method is very important because the questions that are asked can be very pertinent to genuine problems and the responses can be got from the persons affected by the problems. One of the advantages of this method is that it allows the researcher to get a lot of information from many people within a short time. The problem of this method is that the respondents may be biased when giving their responses, and so the method can be highly subjective.

2) Test Method: Psychological tests are used to collect information about respondent's abilities, personalities, interests, attitudes, intelligence, and achievements. Such tests are referred to as test-batteries. We can use test to seek information from a large number of people within a short time. Such tests are mostly standardised. For this reason, the test method is more objective and therefore provides accurate data than questionnaire or interview.

3) Observational Method: This is the careful study of human and animal's behaviour. In this method, the researcher observes the behavior under study in its natural setting without trying to manipulate or control the behaviour. While observing, the researcher needs to be highly skillful so that he/she can observe and record accurately in order to obtain an objective data. The advantage of this method is that you see behaviour as it occurs in its natural setting. One of the disadvantages of this method is that the subject(s) may decide not to show their true behaviour, if they know that they are being studied.

4) Experimental Method: This is a method in which the investigator makes use of two groups of subjects – the experimental group and the control group. The researcher attempts to give special

treatment to the experimental group. i.e., the organism which is being studied is taken to undergo certain laboratory procedures and conditions, while the control group is not put under any special treatment. It only provides a baseline against which to compare the experimental group.

5) Case Histories Method: This is a technique in which the researcher collects data about an individual or group of individuals through the existing scientific biographies or case histories of that person. In this case, histories of the individual are critically looked into so as to find out about certain problem or behaviour in that person. This method is usually good in studying people with abnormal behaviour.

6) Longitudinal Method: In this method, the investigator conducts an extensive study of the subjects and follows the same group of subjects at different points in time as they grow older, with measurements made at periodic intervals. For this reason, this method usually takes a long time to finish. For instance, a longitudinal method would be used to study the same group of children when they were 5 years old, and then measure them again at ages 7, 10 and 15. The problem with the method is that if any of subjects disappears or dies before the conclusion of the investigation, the investigator may not have a conclusive report.

Self-Assessment Exercises 2

1.	Differentiate between:
i.	Experimental and longitudinal methods.
ii.	Test and survey methods.
2.	Mention three data we can collect through test method

1.4 Summary

This unit has exposed you to the definition of psychology. It explains the importance of psychology to mankind. Effort was also made to explain various ways of investigating in psychology.

1.5 References /Further Reading/Web Sources

Crowl, T.K., Kaminsky, 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 Psychological Foundations of Education. Yaba: Johns-Lad Publishers Ltd.

Saunders, L., & Wong, M. A. (2020). Instruction in Libraries and Information Centers. Windsor & Downs Press; Champaign, IL

1.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1

1. Psychology is the scientific study of human behavior. Psychology is a science subject which seeks to comprehend, predict and control the behaviour of man and lower animals.

Answers to SAEs 2

1. We need to study psychology for us to understand why humans behave the way they do and to find the circumstances that are surrounding their actions and make judgment in our own way. Again, we need to study psychology to find answers to (a) how human beings and animals receive stimuli from their environment and their perceptions about such stimuli (b) how organisms learn and remember experiences (d) how they differ in their characteristics and (d) cope with various problems in life in order to understand the complex nature of organism and to contribute to better standard of living of organisms.

Answers to SAEs 2

1. Experimental method involves conducting research using an experimental group and a control group, in which the experimental group is given a special treatment, while the control group is not put under any special treatment. It only provides a baseline against which to compare the experimental group.

In longitudinal method, the same group of subjects are studied at different points in time as they grow older. For this reason, this method usually takes a long time to finish. The problem with the method is that if any of the subjects disappears or dies before the conclusion of the investigation, the investigator may not have a conclusive report.

Survey method is a research method by which the researcher uses questionnaire or interview to obtain data from their respondents on various topics of interest. One of the advantages of this method is that it allows the researcher to get a lot of information from many people within a short time. The problem of this method is that the respondents

may be biased when giving their responses, and so can be highly subjective.

Test method is used to collect information about respondent's abilities, interests, attitudes and accomplishments. Such tests are mostly standardised. For this reason, the test method is more objective and therefore provides accurate data than questionnaire or interview.

2. Three data that we can collect through test method include respondent's abilities, interests and attitudes.

UNIT 2 BRANCHES OF PSYCHOLOGY

Unit Structure

2.1 Introduction

In the previous unit we were made to understand that psychology is the scientific study of human behavior and that psychologists usually use scientific methods to understand why people behave the way they do and develop principles and theories about them. In this unit you will be exposed to different branches of psychology.

2.2 Learning Outcomes

By the end of this unit, you will be able to:

- identify different branches of psychology
- discuss each of the branches of Psychology
- explain their relevance to our society.

2.3 Branches of Psychology

2.3.1 Different Branches of Psychology

Psychology is regarded as a science which studies human and animal behaviour. It studies different characteristics an organism can exhibit at a particular time or situation. As the society is getting more complex, psychology assumes a vital position in solving human problems. Psychology attempts to study the people in relation to areas like social, education, physiological, genetics, environment and industrial settings. Hence, psychology is divided into several branches such as social, clinical, counselling, educational, developmental, industrial, sports, physiology, experimental, comparative, genetics, abnormal,

environmental and engineering. These branches of psychology are explained below:

1. **Social Psychology:** This branch of Psychology is interested in the ways in which the behaviour of one affect other. It is the study of social behaviour and how they are influenced by the conditions in the society (Oladele, 1998). Social Psychology is about group or collective behaviour. Why does an individual conform to opinions of a group? What factors determine our judgment/impression of others? It studies the ways in which a person's thoughts, feeling and behaviour are influenced by that of other people. Hilgard, Altkinson and Altinson (1971) reveal that social learning is concerned with the behavioural processes, causal factors and results of interaction among persons and groups.

2. **Clinical Psychology:** This is the applied psychology that tries to use principles of knowledge in psychology to diagnose and treat emotional and behavioural problems. It uses the experiences gathered from developmental and abnormal psychology to determine the causative factors of a perceived problem. Psychologists in this field try to develop programmes of intervention that may assist the individual to overcome their emotional illness. A clinical Psychologist may work in places like hospital, juvenile court or practice privately.

3. **Counselling Psychology:** This is a field of Psychology typically used in the schools to give the students advice on problems of social adjustment, vocational/career or educational goals. The psychologist assists the individual to discover his/her hidden or untapped talent in order to make use of this talent or resource effectively in solving personal problems. The counsellor changes the behaviour of his/her client through behaviour modification, modeling sensitisation and rational thinking.

4. **Developmental Psychology:** Studies the process of human growth and the factors that are responsible for human behaviour from birth to the old age. This field of psychology seeks to find out the changes that take place during the individual's cognitive, physical, emotional, motor, personality and social development. The major focus of the developmental psychologists are children and adolescents.

5. **Educational Psychology:** Is an applied psychology which seeks to find solution to the problems associated with the teaching and learning in the classroom. It is a branch of psychology that

attempts to find the fundamental laws of human behaviour and their applications to learning (Skinner, 1953). Educational psychology is concerned with the curriculum planning, teacher-training and instruction design. It helps the learners and the teachers to optimally benefit in teaching-learning activities.

6. **Industrial Psychology/Organisational Psychology:** This psychology is described by Oladele (1998) as the sub-field that applies psychological knowledge to areas like personnel policies, working conditions, production efficiency and decision-making. The psychologists in this field are concerned with the labour enhancement. They help industries or other establishments in personnel selection, training, leadership and management.

7. **Sports Psychology:** This is a sub-field of psychology that tries to apply skills and knowledge in psychology to promote the efficiency of sports men and women. The sports psychologists work to develop programmes of intervention that may assist sports men and women to cope and adjust well in their psychomotor domain. Organisational psychology is closely related to industrial. It deals with team building, development of communication skills, goal setting or job designs.

8. **Experimental Psychology:** The major concern of the psychologists in this regard is to adopt scientific methods (experiment) in investigating how people react to stimuli, perceive the world around them, learn, respond and are motivated to action. It deals with the study of fundamental psychological processes such as sensation, learning, motivation, emotion and memory.

9. **Comparative Psychology:** Comparative Psychologists make attempt to study the animals in order to compare the behaviour of different species. These set of psychologists investigate the abilities; needs and activities of different types of animals as compared with human beings.

10. **Genetics:** This is the psychology/ science of heredity, the science which deals with inherited attributes of an organism.

11. **Abnormal Psychology:** Deals with disruptive or behavioural disorder of individuals. The psychologists are interested in finding the causes of violent or behavioural problems or the treatment that can be adopted to tackle such emotional problems.

12. **Physiological Psychology:** Examines the relationship between the bodily processes and behaviour. This branch of psychology assesses the functions of different parts of the brain, how hormones affect individual's behaviour and the physical processes involved in learning and emotions.

13. **Environmental Psychology:** This is the application of psychological knowledge in finding the relationship that exists between human beings and the environment. The goal is to assist in environmental planning designing in order to save the environment.

Self-Assessment Exercises

1. What is the usefulness of Social Psychology to Educational Settings?
2. What are the implications of Developmental Psychology to teaching/ learning activities?

2.4 Summary

This unit has provided an insight into various branches of psychology. Psychology, a social science course is like a mother with many children. Some of the children given birth to are educational, social, genetics, clinical, counselling, abnormal, developmental, physiological, and environmental beings. Each has different features and functions it performs, but all adopt similar styles in carrying out their tasks.

2.5 References/Further Reading/ Web Sources

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

Jon Mueller's, *Resources for the Teaching of Social Psychology and the Online Resources from the Social Science Information Gateway.* Downloaded on 20/09/2006.

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Skinner, B.F. (1953). *Science of Behaviour*. New York: Macmillan.

2.6 Possible Answers to Self-Assessment Exercises

1. Social psychology is about group or collective behaviour. It studies the ways in which a person's thoughts, feeling and behaviour are influenced by the presence of others. Social psychology is useful in educational settings because school is a social setting with many students assembled together for the purpose of receiving instruction. Knowledge of social psychology can help the instructor/teacher to improve intergroup relations in the class.
2. The development stages of children and their characteristics are essential factors which the teacher must know to be a successful teacher. Knowledge of Developmental Psychology will guide the teacher in the selection of the learning contents according to students' cognitive capability and levels of intellectual development.

UNIT 3 EDUCATIONAL PSYCHOLOGY

Unit Structure

3.1 Introduction

In the previous unit, we discussed the concept of psychology and its different branches. In this unit we shall focus our attention on Educational Psychology as a branch of psychology that is of relevance to teachers. The relevance of Educational Psychology in the classroom cannot be over-emphasised. This is because a teacher who has skills and knowledge in psychology will be able to manage his/her classroom effectively. This unit focuses on the application of educational psychology to classroom practices. Besides, knowledge of psychology is a sine-quo-non to successful teaching-learning activities.

3.2 Learning Outcomes

By the end of this unit, you will be able to:

- define Educational Psychology
- identify the importance of Educational Psychology to the classroom situation.

3.3 The Relevance of Educational Psychology

3.3.1 Meaning of Educational Psychology?

Educational Psychology is an integral part of psychology which seeks to find how positive relationship/interaction can be established between the teacher, students and the learning process. According to Oladele (1998), educational psychology is an applied psychology which studies the ways in which the learner can be most effectively brought into contact with the learning process. Educational psychology is geared towards investigating or exploring the factors that will stimulate, enhance or obstruct the learning process. The knowledge and skills acquired from educational psychology will guide and direct in resolving the enormous problems confronting both the teachers and students in the classroom. in a nutshell, Educational Psychology is an applied psychology which seeks to find and provide necessary solutions to problems confronting the teacher and his/her students in the classroom.

Educational psychology is a branch of psychology that is concerned with the learner, learning process, and learning situation to improve education.

In any educational situation, the three areas are prominent:

a) **The learner** –The educational psychologist wants to know about learners' growth and development right from conception to death. Knowledge of the learner is of great importance as this will guide the teacher in the selection of the learning contents according to the students' cognitive capability.

b) **Learning process** – The educational psychologist is interested in the processes involved in learning. Learning is a process and knowing the various aspects of learning helps the teacher in ensuring and making the learning effective.

c) **Learning situation** –Characteristics of the learning environment deals with environmental factors that affect the efficiency of learning. Learning depends on the situation provided in school and at home. Whether at home or in school, the learning environment should be suitable for learning. Schools with dilapidated buildings and schools without adequate equipment and instructional materials may affect the learning of the child. An unhealthy home environment, tension between parents and a home where the child feels unsafe adversely affects the learning of the child.

Self-Assessment Exercises 1

What do you understand by Educational Psychology?

3.3.2 Implications of Educational Psychology to Classroom situations

1) Educational Psychology allows the teacher to know the tone of his/her classroom. It assists the teacher to understand the behaviour of every member of his/her classroom. It affords the teacher the opportunity to know the factors that can enhance or impede teaching-learning activities.

2) It helps the teacher to appreciate the importance of motivation, and how and when to motive the students in the classroom.

3) It equips the teacher to know or be able to predict what might likely happen to a learner in terms of his/her personality, developmental stages and psychological problem.

4) It gives the teacher the opportunity of varying his/her instructional strategies based on the behaviour of the students in the classroom. It is a known fact that no particular instructional method is regarded as the best. The viability of any instructional method is based on learners' characteristics as well as the instructions to be delivered at a particular time.

5) Educational Psychology enables the teacher to understand the interest of the learners and how to follow this in planning the curriculum or learning contents.

6) It aids/guides the teacher in grading or placing the learners into a particular class. Feedback is an important aspect in the learning situation, a constant evaluation of students' performance will serve as a yardstick of measuring or assessing whether the students are responding positively to learning situation or there is a need for the teacher to adjust his/her teaching style.

7) Behavioural problem is an integral part of learning process. It is an undesirable act in the classroom. However, a teacher who is well trained will be able to explain why students behave irrationally at a particular time and how the teacher can tackle such problems without much harm to the classroom teaching/learning activities.

8) It also assists the teacher to assess his/her effectiveness. It is believed that teacher's effectiveness is measured based on the learners' performance in the classroom, hence, a teacher with good foundation in psychology will be able to judge his/her own efficiency and competency

Self-Assessment Exercises 2

Describe three benefits of Educational Psychology for teachers

3.4 Summary

In this unit you have become acquainted with the meaning of educational psychology and its importance to classroom situations.

3.5 References/Further Reading/Web Sources

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

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3.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1
Educational Psychology is an applied psychology which seeks to find and provide necessary solutions to problems confronting the teacher and his/her students in the classroom.

Answers to SAEs 2
Three benefits of Educational Psychology for teachers:

- To equip the teacher on how to tackle students' disciplinary problems in the classroom,
- To guide the teacher in the selection of the learning contents according to the students' cognitive capability, and
- To provide useful information about the differences among learners and how these can be taken care of so that every member of the class can benefit in the classroom activities.

UNIT 4 CONCEPTS OF LEARNING AND PSYCHOLOGY OF LEARNING

Unit Structure

4.1 Introduction

In the last unit, you learned about educational psychology as a branch of psychology and its relevance to teachers. This unit will introduce you to what psychologists refer to as Learning. When you hear the word Learning, what comes to your mind? Here, we will explore the concepts of learning and psychology of learning and the importance of the study of psychology of learning to the teacher. The interest in Psychology of Learning is not just in academic per se, but is useful in understanding the fundamental problems or emotional development, motivation, social behaviour and personality of people.

4.2 Learning Outcomes

By the end of this unit, you will be able to:

- define the concept of learning and mention some of its attributes

- explain the meaning of psychology of learning and its components
- discuss the need for the study of psychology of learning

4.3 Concepts of Learning and Psychology of Learning

4.3.1 Definition of Learning and its Attributes

An Overview of Learning

When you think of learning what comes to your mind? How would you describe learning? Have you ever thought about what goes on in the process of learning? How does an individual learn a set of knowledge, skills, habits, interests, attitudes and similar other things in life?

Learning is a psychological concept that cuts across psychology and education. Learning is the most important factor in understanding human behaviour. You are learning, as you read your course materials, watch videos, and engage in a discussion. Learning is also involved in many other aspects of life. You learn to ride a bicycle, drive a car, cook, and to play football. Learning influences behaviour to such a great extent that it is one of the most important concepts that psychologist's study. In fact, learning occupies a very important place in our lives. Most of what we do or do not do is influenced by what we learn and how we have learnt it.

Learning occurs right from the birth of the child and proceeds until he/she dies. Learning is acquired due to the prior experience one has gained. A child may learn from their environment consciously or unconsciously, and in the process, their behaviour is being modified either negatively or positively. However, the essence of enrolling in the school is to acquire desirable/positive behaviour under the tutelage of the teacher. learning involves acquiring knowledge and skills through experience (Lumen Learning, 2020). To this end, learning can be described as a process by which an individual:

i. acquires a novel idea or experience to a situation;
ii. retains and applies the idea, skills and knowledge in solving the confronting problems.
iii. modify one's behaviour by the experience gained in the past and making the change permanent.

What is Learning?

Learning has been defined in many ways: To a layman learning refers to knowing something. 'We learn what we are taught. To some, it is the process of acquiring knowledge. Psychologists do not agree with the simplistic layman's view about learning. We need to have a clear understanding of what psychologists refer to as learning. From a psychological point of view, learning is defined as a relatively permanent change in behaviour that occurs as a result of experience or practice. Note the key words in this definition – 'permanent' 'change' 'behaviour' 'experience'.

This definition emphasises four attributes of learning:

1. Learning involves change in behaviour, be it good or bad.
2. The change in behaviour must be relatively permanent. For instance, a temporary change in behaviour due to fatigue, illness, alcohol, drugs are not considered learning.
3. Only change in behaviour acquired through experience or practice is considered learning. Experience may be acquired directly through practice or observation or indirectly through reading. The child brings changes in their behavior after gaining experiences from the environment. Let us look at the term learning from this scenario:

While a child is approaching a burning match stick, he/she gets burnt and withdraws. The next time when the child faces a burning match stick, they would waste no time in withdrawing themselves away. The child learns to avoid not only the burning match stick but also all burning things. When this happens, we say that the child has learnt that

if one touches a flame, one gets burnt. In this way, we say that the experience gained brings a change in the behaviour of that child.

4. Finally, learning is universal and continuous. It is not confined to our schooling only. As a matter of fact, learning is a life-long process. It is not limited to any age, sex, race or culture.

What is NOT considered learning?

- A change in behaviour due to fatigue, illness, alcohol, drugs are not considered learning. Why? That is because it is not permanent. For instance, the change in the behaviour of a drunkard cannot be regarded as learning since such a change in behaviour is not permanent.

- Some behaviour cannot be described as being learnt because they occur at the moment of anatomical maturation. This type of learning occurs as one matures physically. For example, a child does not learn how to walk, eat or talk but acquires these skills as he/she advances in age. This behaviour is regarded as "specie-specific behaviour" (Ayeni, 1991).

In other words, learning does not include the changes in behaviour on account of maturation. However, maturation must take place before learning can take effect. For instance, when you look at the stages of a child's development, you can see that the child first knows how to eat, then knows how to sit, to crawl about, stand, walk, run about, and knows how to speak. The child is now capable of doing some things which they could not do earlier in life. Would you consider those changes that occur in the stages of that child's development (being able to eat, sit, crawl, stand, walk, run and speak) as learning? No, they are not considered learning because those changes in the behaviour of the child came about as a result of maturation.

Self-Assessment Exercises 1

1. From a psychological viewpoint define the concept of learning
2. Mention five changes in behaviour that cannot be regarded as learning

4.3.2 Psychology of Learning and its Components

Psychology of Learning provides necessary theoretical and empirical data regarding the learning process. It describes the principles and

theories of learning, motivation strategies, transfer of learning, memory, retention and forgetting. The interest in Psychology of Learning is not just in academic per se, but is useful in understanding the fundamental problems or emotional development, motivation, social behaviour and personality of people.

Self-Assessment Exercises 2

Mention some of the components of Psychology of Learning

4.3.3 Study of Psychology of Learning and its Importance to the Teacher

The relevance of the study of psychology of learning can never be over-emphasised. This is because since the main objective of the school as an institution is to bring about desirable changes in the behaviour of the learner through the process of learning, it demands therefore that all those who will engage in bringing about these changes should understand the approaches of learning in order to develop effective teaching strategies and be able to manage their classrooms competently.

The need for the study of psychology of learning includes the following:

- **To understand the theories of learning**: There is the need to understand the theories of learning so that the teacher will be able to apply the principles of those theories in classroom situations.

- **To understand Individual differences:** There is the need to understand the individual differences in learning among learners so that the teaching methods selected by the teacher can care take care of the individual differences existing among the learners.

- **To master the concept of motivation:** There is the need for the teacher to master the concept of motivation developed by various theorists of learning in order to understand the needs and motives of the learners at different age levels and be able to organise those activities which create interest and motivation in them.

- **To understand the process of remembering and forgetting:** The teacher needs to understand the process of remembering and forgetting so that they can utilise efficient methods to minimise the percentage of forgetfulness.

- **To help the learner to transfer skills:** With the knowledge gained from the study of psychology of learning, the teacher can help the learners to transfer skills and information acquired in classroom to life situations outside the school.

Self-Assessment Exercises 3

As a teacher in training, give three reasons why you need to study psychology of learning

4.4 Summary

An attempt has also been made to describe the characteristics and meaning of learning and psychology of learning. The importance of psychology of learning to the teacher was also discussed. Now that we have examined the concept of learning and its attributes, I will expect that you begin to think about how this knowledge can guide you in helping your learners adjust to the learning process. Also, there is a vital need for the study of psychology of learning most especially by those who engage in imparting knowledge. This is because the more they understand the principles of learning, the more efficiently they become in guiding classroom teaching and learning.

In the next module, we shall be looking at the theories of learning and their classroom implications. It's another interesting study module. Get ready!!!

4.5 References/Further Reading/Web Sources

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4.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1

1. From a psychological viewpoint learning is defined as a relatively permanent change in behaviour that occurs as a result of experience or practice
2. Five changes in behaviour that cannot be regarded as learning include change in behaviour due to the following factors: fatigue, maturation, illness, drugs, and alcohol.

Answers to SAEs 2

Some of the components of psychology of learning include the principles and theories of learning, motivation strategies, transfer of learning, memory, retention and forgetting.

Answers to SAEs 3

Three reasons why the study of psychology of learning is of importance to the teacher

- To understand the theories of learning: There is the need to understand the theories of learning so that the teacher will be able to apply the principles of those theories in classroom situations.
- To understand Individual differences: There is the need to understand the individual differences in learning among learners so that the teaching methods selected by the teacher can care take care of the individual differences existing among the learners.
- To master the concept of motivation: There is the need for the teacher to master the concept of motivation developed by various theorists of learning in order to understand the needs and motives of the learners at different age levels and be able to organise those activities which create interest and motivation in them.

MODULE 2 THEORIES OF LEARNING AND THEIR EDUCATIONAL IMPLICATIONS

In the previous Units of Module 1, we focused on clarifying the concepts of psychology, learning and psychology of learning. In this Module, we will turn our attention to Theories of Learning and their Educational Implications. First, we shall have a brief overview of theories of learning and then take a closer look at some of the key theories of learning and discuss how the principles of these theories can be applied to classroom practices.

Module Structure

Unit 1 Overview of Learning Theories
Unit 2 Pavlov's Theory of Classical Conditioning
Unit 3 Skinner's Theory of Operant Conditioning
Unit 4 Thorndike's Theory of Connectionism
Unit 5 Bandura's Social Learning Theory
Unit 6 Gestalt/Cognitive-Field Theory of Learning
Unit 7 Edward Tolman and Benjamin Bloom's Theories of Learning

UNIT 1 OVERVIEW OF LEARNING THEORIES

Unit Structure

1.1 Introduction

In the previous unit, we focused on clarifying the concepts of learning and psychology of learning. In this unit, we shall have a brief overview of theories of learning and the classification of these theories.

1.2 Learning Outcomes

By the end of this unit, you will be able to:

- define learning theories
- classify the two major camps of learning theories and outline their basic assumptions.

1.3 Overview of Learning Theories

1.3.1 What is a Learning Theory?

A theory is a set of generalised statements supported by experimental evidence. A learning theory is an attempt to describe how people learn, thereby helping us to understand the inherently complex process of learning (Sivakumar, 2017). A learning theory explains the different ways people learn by focusing on the internal and external influences that affect the learning process. Psychologists have tried to explain how people learn and why they learn. They have conducted many experiments and on the basis of these experiments they have developed several principles and theories about how people learn. In a nutshell, learning theories are different sets of principles that explain how people learn.

Self-Assessment Exercises 1

What do you understand by Learning theories?

1.3.2 Classification of Learning Theories

As learning is complex, several theories have evolved about how people learn. In the broad sense, learning theories may be classified into two major groups - Behaviourist theories and Cognitive-field theories.

Behaviourist learning theories focus only on external observable behaviours to explain how learning takes place. Behaviourists defined learning simply as an observable change in behaviour. They regard learning as the connection between stimulus and response (S-R), which is why they are also commonly referred to as stimulus-response (S-R) theories. They believe that all behaviours are learnt through interaction with the environment. The main proponents of these theories include

Pavlov (1927), Thorndike (1928), Skinner (1968), and of course, Bandura.

Cognitive-field theory of learning pay more attention to what goes on in the learner's mind and focus on mental processes rather than observable behaviours. They emphasised the importance of perception in learning/insight learning

Self-Assessment Exercises 2

1. What are the two major camps of learning theories?
2. Outline the basic assumptions of these two camps about learning

1.4 Summary

In this unit, we have looked at the definition of learning theory and identified the two major camps of learning theories and how they see learning. Learning more about these theories would allow you to better connect with your students and teach more effectively. In the units that follow, you will be exposed to some of the key theories within the two camps.

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

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1.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1

1. A learning theory is an attempt to describe how people learn and why they learn. Psychologists have conducted many experiments and on the basis of these experiments they have developed several principles and theories about how people learn. Hence, learning theories are different sets of principles that explain how people learn

Answers to SAEs 2

1. The two major camps of the theories of learning are Behaviourist theories and Cognitive field theories.
2. Basic assumptions about Behaviourist theories:

- Behaviourist learning theories focus only on external observable behaviours to explain how learning takes place. Behaviourists defined learning as an observable change in behaviour. They interpret learning in terms of association between stimulus and response, which is why they are also commonly referred to as stimulus-response (S-R) theories. They believe that learning occurs through interaction with the environment.

Basic assumptions about Cognitive-field theory:

- Cognitive-field theory of learning pay more attention to what goes on in the learner's mind and focus on mental processes rather than observable behaviours. They emphasise the importance of perception in learning/insight learning

UNIT 2 PAVLOV'S THEORY OF CLASSICAL CONDITIONING

Unit Structure

2.1 Introduction

In the previous unit, you learnt that Learning theories are classified into two major groups –behaviourist theories, with Pavlov, Thorndike, Skinner and Bandura as the main proponents; and cognitive-field theories. We said the behaviourist learning theories focus only on external observable behaviours to explain how learning takes place and that the cognitive-field theory pays more attention to what goes on in the learner's mind and focus on mental processes rather than observable behaviours. In this unit and in the units that follow you will be exposed to some of the key theories within the two camps of learning theories and how the principles of the theories can be applied to classroom practices. We will begin our discussion with those of behaviourist theories, starting with Pavlov's theory of classical conditioning.

2.2 Learning Outcomes

By the end of this unit, you will be able to:

- explain the basic principles of classical conditioning theory
- discuss the classroom implications of classical conditioning theory.

2.3 Behaviourist Learning Theories and their Classroom Implications (1)

1.3.1 Pavlov's Theory of Classical Conditioning

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 generalises an existing stimulus-response connection to some new stimuli.

How classical conditioning works
In order to understand how classical conditioning works, it is important to become familiar with the basic principles of the process. In classical conditioning a person or animal learns to associate a neutral stimulus with an unconditioned stimulus (UCS) that naturally produces an unconditioned response (UCR). As a result of this association, the previously neutral stimulus comes to elicit the same response and thus becomes a conditioned stimulus (CS) capable of eliciting a conditioned response (CR) by itself. There are three basic phases of this process. Let's consider Pavlov's experiment.

In Pavlov's experiment, the dog salivated each time food was presented to the dog. The food in this situation is an unconditioned stimulus (UCS)**:** a stimulus that elicits a reflexive response in an organism. The dog's salivation is an unconditioned response (UCR): a natural reaction to a given stimulus. This kind of reaction or response was referred to as unlearnt/reflex action. Pavlov believed that the food (UCS) would naturally produce salivation (UCR) in dogs. This is the first stage in the process of classical conditioning.

In stage 2, a sound of the bell was presented to the dog and it did not salivate. The sound of bell is a neutral stimulus (NS), which is a stimulus that does not naturally elicit a response. When Pavlov paired the sound of the bell with the food repeatedly, the dog would produce salivation. This is what he called the conditioning stage.

At Stage 3, after sometime Pavlov then withdrew the food and presented the sound of the bell alone (CR). the dog salivated to the sound of bell alone. Wow! the sound of the bell began to elicit salivation from the dog. Thus, the sound of the bell which was previously a neutral stimulus became a conditioned stimulus (CS) capable of eliciting the conditioned

response by itself. At this stage learning has occurred. The dog learned to salivate at the sound of the bell. This kind of learning could be referred to as Learning by association.

As you can see, there are three basic steps/phases of this process. Let's summarise the steps as follows:

Steps in the Process of Classical Conditioning:

- When food (UCS) is placed in a dog's mouth, salivation takes place (UCR): food is UCS, and the salivation UCR. (unlearnt/reflex action)

- Next, Pavlov paired the sound of the bell and food to the dog and the dog salivated CS + UCS = UCR.

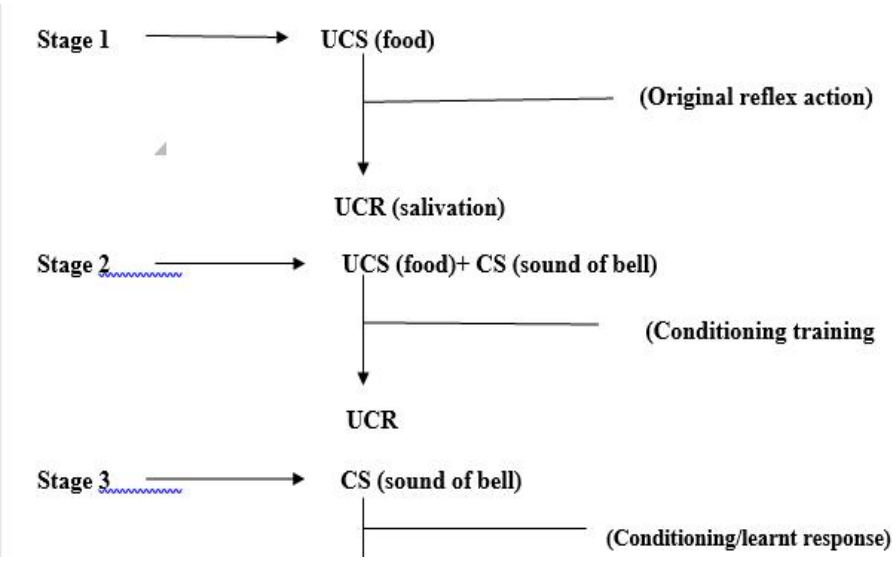
- After some time, Pavlov then withdrew the food and presented the sound of the bell alone (CS). The dog salivated which is the conditioned/learnt response (CR).

➢ After sometime, when the sound of bell was no longer accompanied with the food, the tendency of the dog to salivate gradually diminishes until it finally stopped (Extinction Stage).

➢ To make the dog recover from extinction, it must be presented with food (UCS) again.

Thus, the experiment is summarised below with these graphic illustrations:

Figure 1: Graphic illustrations of the three stages in classical conditioning



From the above illustrations the following revelations were made:

1. That when UCS alone was presented to the dog, the dog only produced UCR. i.e., the behaviour of the organism was a reflex or natural one.

2. By the time the UCS was associated with CS (bell), the dog started to condition itself to the sound of bell.

3. When CS 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 UCS again.

Self-Assessment Exercises 1

1) Briefly describe the three steps in the process of classical conditioning
2) What is the meaning of Extinction stage in classical conditioning?
3) Fill in the missing words:

In the classical conditioning experiment, the unconditioned stimulus is __, the conditioned stimulus is the ___, the unconditioned response is the___, and the conditioned response is the ____.

2.3.2 Classroom Implications of Pavlov's Theory

1. Classical conditioning primarily influences emotional behaviour. Things that make us happy, sad, angry etc. become associated with neutral stimuli that gain our attention. For example, if a teacher beats any child excessively then that child will begin to fear that teacher even after hearing his name only. On the contrary, if teacher exhibits love and affection for students, in return, the students will show full regard for that teacher.

2. Many of our fears and phobias may be traced back to some kind of conditioning. For instance, a student will feel a great deal of fear or anxiety after being punished excessively. And when he

experiences the fear, he gets associated with other things in the situation. Thus, the student's fear gets tied up with taking tests, with certain teachers and in extreme cases, with school itself. In other words, punishment will discourage such students from attending the school

3. Classical conditioning has been used to remove the fear response in a child who learnt to associate painful experiences with school. Teachers are able to apply classical conditioning in the class by creating a positive classroom environment to help students overcome anxiety or fear.

4. 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.

5. The principles of classical conditioning can be used in various areas of teaching-learning in the classroom. A child learns through conditioning.

6. Principles of classical conditioning are very helpful in developing good habits in children' cleanliness, punctuality and respect for others. Bad habits can be eliminated through conditioning. Classical conditioning can be used for developing a favourable attitude to subjects, teachers and above all the school.

7. Some school subjects are learnt more adequately through the process of conditioning, e.g., reading, writing, spelling, and mathematics (multiplication tables) are learnt more effectively through the process of conditioning.

Self-Assessment Exercises 2

Describe two classroom implications of classical conditioning theory

2.4 Summary

We have seen that classical conditioning is a process in which an organism learns to respond in a particular way to a stimulus that previously did not bring about that response. This shows that behaviour

of an organism can be manipulated using some environmental factors. In classical conditioning a person or animal learns to associate a neutral stimulus with an unconditioned stimulus (UCS) that naturally produces an unconditioned response (UCR). As a result of this association, the previously neutral stimulus comes to elicit the same response and thus becomes a conditioned stimulus (CS) capable of eliciting a conditioned response (CR) by itself. The key relevance of the theory to learning is that it emphasises learning by association. It is believed that you have greatly benefited from Pavlov's classical conditioning theory. You should be familiar with this theory and apply it to teaching-learning activities where applicable.

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2.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1

1. The three steps involved in the process of classical conditioning:

- Step 1 - Before conditioning, an unconditioned stimulus (food) produces an unconditioned response (salivation), and a neutral stimulus (bell) does not produce a response.
- Step 2 - During conditioning, the unconditioned stimulus (food) is presented repeatedly just after the presentation of the neutral stimulus (sound of the bell).
- Step 3 - After conditioning, the neutral stimulus alone produces a conditioned response (salivation), thus becoming a conditioned stimulus.

2. Extinction is the decrease in the conditioned response when the unconditioned stimulus is no longer presented with the conditioned stimulus.
3. In the classical conditioning experiment, the unconditioned stimulus is *food*, the conditioned stimulus is the *sound of bell*, the unconditioned response is the *salivation*, and the conditioned response is the *salivation*.

Answers to SAEs 2

Two classroom implications of classical conditioning theory:

- Some school subjects are learnt more adequately through the process of conditioning, e.g., reading, writing, spelling, and mathematics (multiplication tables) are learnt more effectively through the process of conditioning.
- Classical conditioning can be used to remove the fear response in students who learnt to associate painful experiences with school. Teachers are able to apply classical conditioning in the class by creating a positive classroom environment to help students overcome anxiety or fear.

UNIT 3 SKINNER'S THEORY OF OPERANT CONDITIONING

Unit Structure

3.1 Introduction

In the previous unit you learned about Pavlov's classical conditioning theory. In this unit, you are going to learn Operant conditioning theory of B.F. Skinner, who is also a behaviourist. Here, you will learn basic principles of the theory, different forms of reinforcement and punishment, schedules of reinforcement and, of course, you will also get to learn about classroom implications of the theory.

3.2 Learning Outcomes

By the end of this unit, you will be able to:

- describe the basic principles of operant conditioning theory
- discuss the different forms of reinforcement and punishment
- explain the schedules of reinforcement
- discuss the classroom implications of operant conditioning theory.

3.3 Behaviourist Theories of Learning and their Classroom Implications (2)

3.3.1 Skinner's Theory of Operant Conditioning

Operant conditioning (or instrumental conditioning) is a type of learning in which an individual's behaviour is modified by its consequences.

Operant 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 (Lumen Learning, 2020). Skinner, however, believed that most learning consists of acquiring new behaviour. He believed that behaviour is an outcome of response that follows the action. The learner will possibly repeat the action of a particular behaviour if it is followed/ rewarded with a pleasant consequence.

Skinner explained two types of responses in his theory. One can be elicited only by a known stimulus which he called as respondent or reflexive behaviour. For example, stepping on a sharp object or touching a hot metal will automatically make someone to produce reflex response. The second type is the response that an individual emits following his/her own decision, which he called as operant behaviour. Operant behaviours are under conscious control. Operant behaviour emits voluntary response. Skinner attaches greater importance to operant behaviour which is primarily concerned with response rather than stimuli**.** It is based on the fact that behaviour operates upon the environment and which are in turn, controlled by their environmental consequences i.e., their future probability of occurrence is either increased or decreased by the events that follow their emission. Operant conditioning believes that behavioural responses become connected to environmental stimuli largely as a result of what happens after the response occurs.

Skinner developed his operant conditioning theory as an expansion of Thorndike's Law of Effect (We shall discuss Thorndike's theory in the next unit). Skinner revealed in his theory that learning is a function of change in overt behavior. Changes in behaviour, according to skinner, are the result of an individual's response to events (Stimuli) that occur in the environment. Our behaviour is either strengthened or weakened by the immediate presence of a reward or punishment. That is, any response followed by reward is strengthened; any response followed by pain is weakened. Therefore, learning is a function of the result of the response.

To establish his claims, Skinner conducted an experiment. Skinner constructed a box with a small lever inside it. He placed a hungry rat in the box. In the box, the rat moved around tirelessly and each time the lever is pressed, a pellet of food dropped out. 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. 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. 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 instrumental as the organism is instrumental in securing its own reward.

Skinner's theory is built on the concepts of reinforcement and punishment. We shall take a look at the two concepts in more detail.

Self-Assessment Exercises 1

Discuss the main features of operant conditioning theory

3.3.2 Reinforcement versus Punishment

Reinforcement

Operant conditioning emphasises reinforcement for behaviors. Skinner in this theory identified the two types of reinforcers, they are positive and negative reinforcers. He believed that you can control human behaviour by the use of reinforcers. The stimulus that occurs after a response is called a reinforcer.

- Example: A teacher gives a pleasant or complimentary remark to a student for scoring a good mark in an assignment. The pleasant remark the student receives is a positive reinforcer to reinforce the behaviour of scoring a good mark. By this action, it is likely that such a student will want to continue doing his/her assignment promptly.

There are two types of reinforcement: positive reinforcement and negative reinforcement. **Positive reinforcement** involves adding something pleasant to the person after the desired behavior is exhibited, making the behavior more likely to happen in the future. Simply put, positive reinforcement involves adding something positive in order to increase a behavior. Positive reinforcement includes a wide variety of methods such as praise, thumps up, nods of approval, smiles, hugs, handshakes, and social recognition.

Positive reinforcement can be:

- verbal for example saying "good" "well-done" "fantastic" to a child, commending students for completing their work.

- non-verbal for example smiling or nodding at a student after a correct response; applauding the child, thumps up, or patting a child on the back.
- material rewards for example giving a child a book, pencil, crayon, etc.

In **negative reinforcement**, an undesirable stimulus is avoided or removed to increase the desired behaviour.

- Example: A company has a policy that if an employee completes their assigned work by Friday, they can have Saturday off.

Working Saturday is the negative reinforcer, the employee's productivity will be increased as they avoid experiencing the negative reinforcer.

- Example: A parent removed restrictions from a child when she follows the rules.

Something unpleasant (a set of restrictions) is removed to encourage the child's good behavior (following the rules).

- Example: A lecturer tells students that if they have perfect attendance all semester, then they do not have to take the final comprehensive exam.

By removing an unpleasant stimulus (the final test), students will try to attend class regularly.

- Example: removing furniture in a room so a baby can have space to learn how to crawl.

Both positive and negative reinforcements serve to increase a desired behaviour. In fact, if appropriately used negative reinforcement can play the role of reward

It is important to note that positive and negative do not mean good and bad. Instead, *positive* means you are adding something, and *negative* means you are taking something away.

Punishment

Like reinforcement, punishment also comes in two forms: positive punishment and negative punishment. Positive and negative punishment serves to decrease a behavior.

In **positive punishment**, you add an undesirable stimulus to decrease or stop a behavior. That is, positive punishment gives something learners do not want. One common example of positive punishment is spanking/beating.

- Example: Spanking a student to get the student to stop texting in class.

In this case, an unpleasant stimulus (spanking) is added in order to decrease the undesirable behavior (texting in class).

However, this notion has been revised on the assumption that positive punishment (or the more familiar term of corporal punishment) does not decrease a behaviour. You will get to know why? Keep reading!!

In **negative punishment**, you remove a pleasant stimulus to decrease/stop the undesirable behavior. That is, negative punishment takes away something learners want. Negative punishment might include taking away recess, taking away time to play, taking away a favourite activity, or removing the teacher's positive attention. Here, you identify what the child likes and deprive him or her of that 'thing'.

- Example: Taking away a child'**s** electronics privileges for one week if she misbehaves.
- Example: If your student loves a particular activity (such as playing football in recess/break time), taking it away in response to poor grades or bad behaviour may encourage such student to do better.

Here, the teacher might decide to have the student miss his time in recess for one week to make him lose the privilege of playing football. Taking away his favourite activity (playing football) may encourage such student to behave well in the future. This technique has been shown to be more effective than using corporal punishment. No amount of beating, slapping, verbal abuse, and shaming can modify a bad behaviour. Another example of negative punishment is:

- Example: When a child misbehaves, a parent can take away the child's favorite toy for one week.

A pleasant stimulus (the toy) is removed in order to decrease/stop the child's misbehavior. Here, you identify what the child likes and deprive them of that 'thing'. You should return the toy when the child starts behaving well, thereby reinforcing the changed behaviour.

- You and your brother are fighting over the PS4. Your parents take it away for two weeks.

A pleasant stimulus (the PS4) is removed to decrease/stop the unwanted behavior (fighting).

Now let's combine these four terms: positive reinforcement, negative reinforcement, positive punishment, and negative punishment as shown in Table 1.

Table 1. Positive and Negative Reinforcement and Punishment

	Reinforcement	**Punishment**
Positive	Something (pleasant) is *added* to *increase* the likelihood of a desired behaviour.	Something (unpleasant) is *added* to *decrease* the likelihood of an undesired behaviour
Negative	Something (unpleasant) is *removed* to *increase* the likelihood of a desired behaviour	Something (pleasant) is *removed* to *decrease* the likelihood of an undesired behaviour.

Source: Lumen Learning (2020)

Remember, we mentioned that in positive punishment /corporal punishment, you add an undesirable stimulus to decrease a bad behavior; e.g.**,** beating a child for misbehaving in the class. It has been found that instead of decreasing a behaviour, corporal punishment yields unpredictable consequences. In other words, there are many problems associated with the use of corporal punishment. Let's dwell more on this.

Corporal punishment

Corporal punishment of children is a common practice in many Nigerian classrooms. It is also widely used in most homes. Some researchers have identified various forms of corporal punishment used in Nigerian schools which include:

- Beating
- Slapping
- Knocking child's head with the knuckle
- Asking students to kneel down on hard surfaces
- Threatening to beat but did not
- Yelling
- Verbal abuse
- Ridicule
- Name calling, and
- Other forms of punitive practices

According to education experts, corporal punishment has been shown not to result in the desired outcome of improved behavior and even sometimes results in escalation of unwanted behaviours (Merrette & Merrette, 2013). A study by Rahimi and Karkami (2015) found that in classes where teachers managed disruptive behaviors by using punitive strategies, students had problems in learning as punitive strategies lowered students' motivation.

It has been observed that the only positive outcome of corporal punishment is that it leads to immediate compliance, although temporary; and that punished behavior is never eliminated, it is suppressed for a short period of time, meaning that the bad behavior may return when punishment is no longer present. For this reason, Skinner (1972) argued that corporal punishment is a very bad technique for controlling behaviour. He advocated for the frequent use of positive reinforcement. He believed that positive reinforcement was more effective than corporal punishment when trying to change and establish behaviours.

Given the above scenario, it is therefore important to be aware of some of the drawbacks in using corporal punishment on children. Numerous research studies including Gershoff (2017) and Opeyemi, (2017) have shown that corporal punishment is an ineffective method of discipline and has major harmful consequences on children and students. The following are some of the negative effects of corporal punishment:

- Corporal punishment may cause children to become more aggressive and prone to antisocial behavior and delinquency. They learn to use physical violence to bully and control people.
- Corporal punishment may lead to lying. Children learn to tell lies instead of admitting their mistakes in order to avoid punishment.
- Corporal punishment creates hostility and damages the relationship between the punisher and the child.
- Corporal punishment reinforces the punisher, not the punished.
- Corporal punishment hardens the child instead of correcting them.

May increase the behaviour it seeks to eliminate. Punishment suppresses the bad behaviour only for it to find expression in other problem behaviours.

- Corporal punishment does not guide the child towards the desired behaviour.
- Corporal punishment causes fear, anxiety, withdrawal and timidity. Children who are punished by teachers may come to fear the teacher and try to avoid school.
- Corporal punishment has a negative impact on children's cognitive development, it interferes with learning. Punishing a child because he or she performed poorly in a test or exam is

totally wrong; you are destroying the child's cognitive development.

- Corporal punishment causes physical injury
- Corporal punishment can cause emotional as well as mental health problems.

Because of these problems, corporal punishment should be avoided, while positive reinforcement should be emphasised.

You may find yourself asking "Does giving up corporal punishment

mean giving up discipline"? The answer is capital 'NO'. There are quite a number of behaviour modification techniques that teachers can use to discipline students without using corporal punishment. In subsequent unit, you will learn about techniques for managing student behaviour, which are found to be safer, non-violent and more effective than corporal punishment.

Meanwhile, let's continue with our discussion on Skinner by looking at the concept of reinforcement schedules.

Self-Assessment Exercises 2

1) Can you identify the negative reinforcers in each of these examples?

- You decide to clean up your mess in the kitchen to avoid getting into a fight with your roommate.
- You leave the house early to avoid getting stuck in traffic and being late for work.

2) Fill in the missing word with the options provided.

- ----------is when you take away a pleasant stimulus to stop a behavior.

positive reinforcement (b) negative reinforcement (c) positive punishment (d) negative punishment

3) Discuss any three negative effects of corporal punishment on students

3.3.3 Schedules of Reinforcement

Remember, Skinner's theory focuses on a system of reinforcement. Also, remember that the best way to teach or modify a behavior is to use positive reinforcement. Skinner came up with the idea of reinforcement schedule. Reinforcement schedule is simply a rule that specifies when and how often a desired behaviour will be reinforced. It is an

arrangement to determine when to reinforce a desired behavior, in terms of the time or number of responses.

A reinforcement schedule can be divided into two broad categories: continuous schedules and partial schedules (also called intermittent schedules). In a continuous schedule every desired behavior is reinforced, whereas partial schedules only reinforce the desired behavior occasionally. Both types of schedules are explained below:

A. Continuous reinforcement: In this reinforcement technique, every correct response or behaviour is rewarded/reinforced. For example, a student may be rewarded for every correct answer he gives to the questions asked by their teacher. This reinforcement schedule is the quickest way to teach someone a behavior, and it is especially effective in training a new behavior.

B. Partial/Intermittent reinforcement: In this type of reinforcement, the person does not get reinforced every time they perform the desired behavior.

There are four types of partial reinforcement schedules:

i. Fixed ratio reinforcement schedule: It is an arrangement of providing reinforcement after a set (fixed) number of responses has occurred. For example, a student may be rewarded for every 5 mathematical problems solved.

ii. Fixed interval reinforcement schedule: This is when a behaviour is rewarded/reinforced at a set amount of time. For example, you praise your students after every 5 minutes.

iii. Variable ratio reinforcement schedule: It is an arrangement of providing reinforcement after a varying number of responses has been made. Here, the number of responses needed to gain the reinforcement is not consistent. The individual does not know when they are going to be rewarded and consequently, they remain motivated throughout the learning process in the wait for reinforcement. For example, a student may be rewarded after 3, 5, 10 and 15 mathematical problems solved.

iv. Variable interval reinforcement schedule: This is a kind of schedule in which reinforcement is provided at a varying amount of time from the previous reinforcement. i.e., behavior is rewarded after a varying period of time have passed, which are unpredictable. In this case, reinforcement is irregular. For example, when the school principal has to visit classes unexpectedly to check those teachers that are doing their work in order to reward them. Here, there is no scheduled time for the

visits, therefore the teachers' productivity will be increased as they do not know when the principal will show up to reward them.

It is to be noted that different types of reinforcing schedules generate different results. Among the four partial schedules, variable ratio and variable interval have been recognised as the most powerful schedule. They are the most unpredictable of the four types. All students operate on different schedules of reinforcement. A high achieving student will be more likely to work effectively for a longer period of time between reinforcements. In contrast, the student who has had little success in the past may need reinforcement more often to keep going.

Self-Assessment Exercises 3

Categorise the four schedules of reinforcement into schedules that deal with passage of time and those associated with number of responses.

3.3.4 Educational Implications of Skinner's Theory

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 positive reinforcement. This reinforcement will stimulate the efforts of the students in the classroom.

2. Teacher should reinforce positive behaviours through variety of incentives such as verbal praise, a smile, social recognition, a pat on the back, prize or by giving marks.

3. For the desirable behaviour in the learner to be demonstrated and repeated, it must be immediately reinforced. The time lag between reinforcing the demonstrated behaviour should not be too long.

4. Provide negative consequences for unacceptable behaviours. Use appropriate techniques to punish bad behaviour. Do not use corporal punishment or humiliation to correct bad behaviour, it will backfire.

5. If a student engages in a disruptive behaviour, the teacher should not reinforce such a behaviour by using corporal punishment. Corporal punishment can inhibit learning. There are positive approaches for correcting unwanted behaviours.

6. The whole atmosphere of our school is dominated by fear and unpleasant experiences because of the frequent use of corporal punishment. The school can use the principles of operant conditioning to eliminate the element of fear from school atmosphere by using positive reinforcement more often.

7. Use an appropriate reinforcement schedule. Teachers must be alert to their students because all students operate on different schedules of reinforcement. A student who has achieved success for longer period of time will be more likely to work effectively for a longer period of time between rewards. In contrast, the student who has had little success in the past may need reinforcement more often to keep going (Basmah, 2004). In other words, highly motivated students are usually actively and spontaneously involved in activities and find the process of learning enjoyable without expecting any external rewards (Skinner & Belmont, 1993). On the other hand, students who exhibit low levels of motivation to learn will often depend on the rewards to encourage them to participate in activities they may not find enjoyable (Yount, 2001).

8. Provide clear informative feedback on student work. Remember that feedback is most effective when it involves both praise (positive reinforcement) for correct answers and corrective information for wrong answers (Yount, 2001).

Self-Assessment Exercises 4

What are the contributions of Skinner's theory to educational process?

3.4 Summary

This unit has discussed the basic principles of operant conditioning theory. Skinner's theory of operant conditioning revealed that behaviors are strengthened or weakened based on the consequences of that behavior. Reinforcement plays a vital role in the operant conditioning process. The relevance of reinforcement to students learning was also discussed in this unit. We discussed the many problems associated with the use of corporal punishment and advocated for the use of positive reinforcement. The schedules of reinforcement were also discussed. Reinforcement may be either continuous or partial. Partial reinforcement schedules are determined by whether the reinforcement is presented on

the basis of the time that elapses between reinforcement (interval) or on the basis of the number of responses that the organism engages in (ratio), and by whether the reinforcement occurs on a regular (fixed) or unpredictable (variable) schedule (Stangor, 2012). Also, the implications of the theory to educational settings were discussed.

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3.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1

1. Skinner developed the operant conditioning theory. The basic premise of the theory was that behaviors are strengthened or weakened based on the consequences of that behaviour i.e., their future probability of occurrence is either increased or decreased by the immediate presence of a reward or punishment. Through operant conditioning, an individual makes an association between a particular behavior and a consequence.

Answers to SAEs 2

1. A fight with your roommate and being late for work are the negative reinforcers that were avoided by performing a specific behavior.
2. *Negative reinforcement* is when you take away a pleasant stimulus to stop a behavior.
3. Three negative effects of corporal punishment on students:

- Corporal punishment may lead to lying. Children learn to tell lies instead of admitting their mistakes in order to avoid punishment.
- Corporal punishment creates hostility and damages the relationship between the punisher and the child.
- Corporal punishment causes fear, anxiety, withdrawal and timidity. Children who are punished by teachers may come to fear the teacher and try to avoid school.

Answers to SAEs 3

Schedules of reinforcement that deal with the passage of time are fixed interval reinforcement schedule and variable interval reinforcement schedule. Those that are associated with the number of responses are fixed ratio reinforcement schedule and variable ratio reinforcement schedule

Seminar Topics

Each student is expected to present seminar paper on one of the following topics:

1. Identify two shortcomings in our educational system which Skinner's theory can help to correct.
2. How is Skinner's theory relevant to teaching/learning activities?
3. How would you apply operant conditioning in trying to teach or encourage a child to do her homework?

UNIT 4 THORNDIKE'S THEORY OF CONNECTIONISM

Unit Structure

4.1 Introduction

In the previous unit you learnt about Skinner's theory of operant conditioning. In this unit, you will learn about Thorndike's theory of connectionism, who is also a behaviourist. Here, we are going to be looking at the principles of the theory and learn about the three laws of learning propounded by Thorndike and also discuss the classroom implications of his theory. He reveals that the foundation of learning is the association between sense impressions and impulses to action.

4.2 Learning Outcomes

By the end of this unit, you will be able to:

- describe the basic tenets of Thorndike's theory of connectionism
- describe Thorndike's Laws of learning
- enumerate classroom implications of Thorndike's theory.

4.3 Behaviourist Theories of Learning and their Classroom Implications (3)

4.3.1 Thorndike's Theory of Connectionism

Edward Thorndike was an American psychologist. Who lived between 1874 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

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 is a product of the relationship between stimulus and response. This connection between stimulus and response is called a stimulus-response bond, or an S-R bond. The stronger the S-R bond, the better a person has learned the lesson. Thorndike described this type of theory as learning by "trial and error".

To establish his claim, he conducted an experiment in which a hungry cat was placed in a cage, with food outside the cage. The logic was that the cat has to escape before it could get the food. There was a release mechanism inside the cage which the cat would operate before it could get outside. At first, the cat made a series of effort trying to escape to get food. Eventually, it succeeded in operating the mechanism, which allowed it to escape and obtain food. On subsequent attempts, 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 time of escape decreased until the cat eventually operated the release mechanism as soon as it found itself in the cage. In this 'trial and error' fashion, the cat hit on the release mechanism to get the food.

Self-Assessment Exercises 1

Describe the basic tenets of Thorndike's theory of connectionism?

4.3.2 Thorndike's Laws of Learning

Thorndike propounded three laws of learning on the basis of his theory. These are the law of readiness, the law of exercise and the law of effect.

1. The Law of Readiness states that a particular state of affairs will prove to be satisfying to the extent that the subject is ready for it. E.g., food is a satisfier only when the animal is hungry i.e., a child will learn best only when he/she is ready to learn. The child will not learn if he/she is not prepared and matured mentally to start learning. Schools cannot force students to learn if they are not biologically and psychologically prepared. Basic needs of students must be satisfied before they are ready to learn. Students who are exhausted or in ill health cannot learn. They can learn only when they are ready. They can learn only when they are ready. The law is indicative of the learner's state to participate in the learning process. According to Thorndike, readiness is preparation for action. Readiness is an important condition for learning.

Educational Implications
Teachers should prepare the minds of the students to be ready to accept the knowledge, skills and aptitudes. For this, he should provide opportunities for those experiences in which students can spontaneously participate. 'Simple to Complex' is the important maxim. The teacher should assess the readiness of the learner before presenting content by identifying the knowledge the learner already has, his skills, his abilities, his motives, his experiences and make this the starting point.

2. Law of Exercise: This law states "Any response to a situation will, other things being equal, be more strongly connected with the situation in proportion to the number of times it has been connected with that situation and to the average vigour and duration of the connection." That is, repetition strengthens S-R bonds. According to this law, the more something is repeated, the longer it will be retained. 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.
The Law of Exercise has two parts: (a) the law of use and (b) the law of disuse.

- Law of use- the more often an association between stimulus and response (S-R) is made the stronger the connection will be. i.e., the more you do something, the better you are good at it. That is, 'practice makes perfect'.
- Law of disuse- the longer an association between stimulus and response (S-R) is unused the weaker it becomes. When a connection between stimulus and response is not made over a period of time, the strength of that connection is weakened. i.e., the lack of practice brings about forgetting.

Educational implications
More and more opportunities should be provided to the students to use and repeat the experiences they get in the classroom.

3. Law of Effect: This law states that if a stimulus results in a positive outcome, it strengthens the S-R bond, while if it results in a negative outcome, the S-R bond is weakened. That is, behaviours that are followed by positive responses are likely to be repeated and those that are followed by negative responses, not repeated. This law states that learning occurs only when responses are followed by reward and satisfaction. On the other hand, if frustration or punishment is experienced by the learner, the connection between stimulus and response becomes weakened. Think about Mary who gets good grades when she studies. Every time she gets a good grade after studying, the S-R bond is strengthened, and the student learns even more that studying results in getting a good grade. On the other hand, if Mary gets a bad

grade after not studying, the S-R bond between not studying and good grades is weakened. The student learns that not studying does not result in good grades.

Educational Implications

A pleasing environment should be created in the classroom. Experiences provided to the students should be satisfying and meaningful. They should be organised in the order of increasing difficulty. Material should be provided in a number of interesting ways including the use of instructional aids.

Self-Assessment Exercises 2

1) What is the relevance of Law of Effect on student's learning?
2) Which of the laws of learning can be said to reflect the adage 'practice makes perfect'?

4.3.3 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 recognise 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 educational 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 cannot actually address the problem it rather hardens the students and makes them to be more violent in the classroom and it also creates behaviour problems.

6. The teacher should recognise the importance of practice in the learning process. Learning may not occur unless practice is

reinforced. This means that the teacher should engage their students in assignment or homework, if a meaningful learning must be achieved.

Self-Assessment Exercises 3

List four contributions of Thorndike's Theory to classroom situations

4.4 Summary

The basis of Thorndike's theory is that learning is strengthened when accompanied by a pleasant or satisfying feeling, and weakened when associated with an unpleasant feeling. The theory stresses readiness, exercises (repetition) and effect as the conditions for learning. Every learning experience should contain elements that leave the student with some good feelings. A student's chance of success is definitely increased if the learning experience is a pleasant one. It is believed that you must have understood the tenets of the theory and the importance of readiness, exercise, and effect on the learning process.

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4.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1

1. Thorndike believed that all learning is explained by connections that are formed between stimuli and responses. This connection between stimulus and response is called a stimulus-response bond, or an S-R bond. The stronger the S-R bond, the better a person has learned the lesson. In Thorndike's view, learning is the process of forming associations or bonds. Learning is achieved when an individual is able to form associations between a particular stimulus and a response.

Answers to SAEs 2

1. According to the law of effect, all learning involves the formation of S-R connections and connections are strengthened or weakened according to their consequences. Responses to a situation that are followed by satisfaction are strengthened; responses followed by discomfort are weakened. Thus, learning is strengthened when accompanied by a pleasant or satisfying feeling, and weakened when associated with an unpleasant feeling. The learner needs to have success in order to have more success in the future. It is important for the instructor to create situations designed to promote success. That is, behaviours that are followed by positive responses are likely to be repeated and those that are followed by negative responses, not repeated.
2. The law that reflects the adage 'practice makes perfect' is the Law of Exercise with specific reference to the Law of use

Answers to SAEs 3

Four contributions of Thorndike's Theory to classroom situations:

List out any four of the classroom implications described under sub-section 8.3.3.

UNIT 5 BANDURA'S SOCIAL LEARNING THEORY

Unit Structure

5.1 Introduction

In the previous unit you studied Thorndike's theory of connectionism. In this unit, we are going to discuss Bandura's social learning theory, which is also categorized under behaviourist theories. Imagine this scenario. Joy is 16 years old. Joy's parents both drink alcohol every night. They tell Joy that drinking is bad and she shouldn't do it. Joy goes to a party where beer is being served. What do you think Joy will do? In this lesson, you will learn about the principles of Social learning theory and the importance of the social context, and how children learn through observation and imitation of models in their environment.

5.2 Learning Outcomes

By the end of this unit, you will be able to:

- describe the basic principles of social learning theory
- explain the four basic processes involved in observational learning
- describe the role of reinforcement in social learning theory
- discuss the classroom implications of the social learning theory.

5.3 Behaviourist Theories of Learning and their Classroom Implications (4)

5.3.1 Social Learning Theory of Albert Bandura

Bandura is noted as one of the exponents of social learning theory. He is quite different from other behavioural theorists who look at learning as a direct result of conditioning, reinforcement, and punishment. Social learning theory explains human behaviour in terms of continuous reciprocal interaction between individuals and their environments, in which our behaviour, personal factors and the social environmental all mutually influence each other. This notion means that just as an individual's behavior is influenced by the environment, the environment is also influenced by the individual's behavior. The theory suggests that people learn from one another through observation, imitation, and modeling; and that is why it is also commonly referred to as observational learning. This means that we learn by observing the behaviour of others. Social learning theory draws heavily on the concept of role modeling. Individuals that are observed are known as models.

Children learn through observation and imitation. They can observe people around them behaving in various ways and imitate their actions, this is identified in Bandura's Bobo doll experiment. In our society, children are surrounded by many models, such as parents, teachers, characters on the television, their friends and people they see in the street. Children pay attention to these models and imitate their behaviours. Through observational learning, Bandura has shown that children learn many things both good and bad simply by watching other's behaviour. Once children observe a behaviour they can store it in their memory and display the imitated behaviour at a later time.

Social learning theory has been applied extensively to the understanding of aggression among children, particularly children's modeling of adults' aggressive behaviours. The theory suggests that children learn to exhibit aggressive behaviors because they observe others acting aggressively and can see how these behaviors are reinforced over time (Bandura, 1978). Through observation, children learn new behaviours that they have observed from their parents and other models. For instance, psychological evidence shows that parental use of corporal punishment in child training often relates to the learning of aggressive behaviour in children (Ofoha, 2015).

The Bobo doll experiment

Bandura carried out an experiment (Bobo doll experiment) to see if aggressive behaviours can be acquired by observation and imitation. In that experiment, he showed young children a short film in which an adult model was beating up the Bobo doll. Another group of children did not watch the film. After the film, the children were taken to a room containing some toys, including a Bobo doll. The children who watched the film tended to reproduce the model's aggressive behaviour toward

the doll. The group of children who did not watch the film did not display aggressive behaviour toward the toy. Through this experiment, Bandura demonstrated that children could learn aggression by watching the actions of an adult model. It also shows that children can be influenced by watching violent films, movies or television programmes.

Self-Assessment Exercises 1

1. Briefly describe the basic principles of social learning theory
2. Fill in the missing words

- The person who performs a behavior that serves as an example is called a _____
- In the Bobo doll experiment, when the children who watched the aggressive model were placed in a room with the doll and other toys, they _____

5.3.2 Four Basic Processes in Observational Learning

It has been noted that individuals do not automatically observe the behavior of a model and imitate it. Bandura described four basic processes or steps which must be followed for the behavior to be imitated. These steps include attention, retention, reproduction, and motivation.

1. **Attention**: For a behavior to be imitated, you must be focused on what the model is doing—you have to pay attention. Attention is therefore extremely important in whether a behavior influences others imitating it.

2. **Retention**: This is the ability to store in the memory information received from the environment. You must be able to retain, or remember, what you observed. If you are to later use what you have learned, you must store it in memory.

3. **Reproduction**: This is the ability to perform the behavior that the model has just demonstrated. You must be able to perform the behavior that you observed and committed to memory.

4. **Motivation**: You must have motivation. You will reproduce the observed behaviour only if you are motivated to do so. You need to want to copy the behavior, and whether or not you are motivated depends on what happened to the model. If you saw that the model was reinforced for her behavior, you will be more motivated to copy her. This is known as vicarious reinforcement. On the other hand, if you

observed the model being punished, you would be less motivated to copy her. This is called vicarious punishment.

The Role of Reinforcement in Bandura's Theory

It is important for you to note that observational learning can take place without reinforcement. Reinforcement which is so essential in classical and operant conditioning theories as well as in Thorndike's theory is totally unnecessary in an observational learning. That is to say, in social learning theory, reinforcement is not a prerequisite for a learning to occur. Learning occurs by simply observing a model. However, reinforcement increases the chance that 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 finds out that the model has received a negative reinforcement for practicing such a behaviour.

Self-Assessment Exercises 2

1. List the basic processes involved in observational learning in the correct order
2. What is the role of reinforcement in social learning theory?

5.3.3 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. In this case, the teacher should display socially acceptable behaviour since they are role models to students.

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 Exercises 3

Discuss three classroom implications of social learning theory

5.4 Summary

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. We further learned that, to imitate an observed behaviour, we must first pay attention to it, then remember what we observed, then be able to reproduce the action, and have sufficient motivation to do so. Observation plays a very powerful role in learning, and it can play a critical role in determining how and what children learn.

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5.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1

1. The social learning theory suggests that people learn from one another through observation, imitation, and modeling; and it is also commonly referred to as observational learning. This means that people learn by observing the behaviour of others. For social learning theory to take place, there must be an observer (learners), the model, learners' attention and proximity. The process of learning is influenced by the extent of identification and imitation by the learners.
2. The missing words:

- The person who performs a behavior that serves as an example is called a *model*
- In the Bobo doll experiment, when the children who watched the aggressive model were placed in a room with the doll and other toys, they *tended to reproduce the model's aggressive behaviour toward the doll*

Answers to SAEs 2

1. The correct order of the basic processes in observational learning are: Attention, retention, reproduction, and motivation
2. The role of reinforcement in social learning theory:

In social learning theory, reinforcement is not a prerequisite for a learning to occur but it increases the chance that that what has been learnt will definitely be performed. Also, there is probability that an observer might drop a behaviour if he finds out that the model has received a negative reinforcement for practicing such a behaviour.

Answers to SAEs 3

Three classroom implications of social learning theory:

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

- 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.
- Teachers/parents should discourage their students/children from watching violent films or keeping friends of doubtful characters**.**

Seminar Topics

Each student is expected to present seminar paper on one of the following topics:

1. Joy is 16 years old. Joy’s parents both drink alcohol every night. They tell Joy that drinking is bad and she shouldn’t do it. Joy goes to a party where beer is being served. What do you think Joy will do? Why?
2. Explain how you will apply social learning principles to the classroom situations
3. From your understanding of our discussion, what type of movies and television programmes would you recommend for children and adolescents in your community or neighbourhood?

UNIT 6 COGNITIVE-FIELD THEORIES OF LEARNING AND THEIR CLASSROOM IMPLICATIONS

Unit Structure

6.1 Introduction

In the previous unit, we discussed Bandura's Social Learning Theory. With that we have completed all four of the behaviourist theories of learning. Now we are turning our attention to the second group of learning theories known as Cognitive-field theory of learning. Recall that we said Cognitive field theories pay more attention to what goes on in the learner's mind and focus on mental processes rather than observable behaviours. The theory emphasises insight learning. In this lesson, we are going to be looking at the principles of this theory, the main ideas of insight learning and the classroom implications of the theory. Here also, you will learn how learning takes place through the application of insight.

6.2 Learning Outcomes

By the end of this unit, you will be able to:

- describe the underlying principles of cognitive field theory of learning
- explain insight learning and its main features
- explain Gestalt Laws of Perception
- state the difference between Behaviourist and Cognitive field theories of learning
- discuss the classroom implication of cognitive field theory of learning.

6.3 Cognitive-Field Theory of Learning and their Classroom Implications

6.3.1 Cognitive-Field Theory of Learning

Cognitive Field theory or Gestalt theory was formulated by a group of German Psychologists, notable among them were Max Wertheimer, Kurt Koffka, and Wolfgang Kohler, all of who belong to Gestalt school of psychology. Gestalt psychologists emphasise the importance of wholes over parts and believe that the whole of anything is greater than the sum of its parts. According to Gestalt theory, perception of a situation as a 'whole' gives better understanding than the sum of its parts. This theory is in contrast with the behaviourist (S-R) learning which places emphasis on the formation of S-R connections. *Gestalt* is a German word which means pattern, shape, form or configuration, we learn by seeing new patterns and by organising them into a meaningful whole in the total situation. Therefore, the theory lays emphasis on cognitive structure and on perception of the total field by the individual. This could be illustrated with a car, if the whole is dismantled, though the components are there, it's not a car. They believe that parts are configured or organised to make complete or meaningful experiences or impressions. This theory rejected the views that consider the learning process in an isolated form rather than in a total or holistic form. The Gestalt theory of learning is also named as Learning by Insight.

Self-Assessment Exercises 1

Describe the underlying principles of cognitive fields (Gestalt) theory of learning

6.3.2 Learning by Insight

The Gestalt psychologists believe that learning occurs by insight. For instance, when we are faced with a problem, we try to get some clues in

the ways we should proceed to solve the problem; we think through it by having a complete picture of the problem in mind, without making any progress. Then all of a sudden, there will be a flash of understanding in which we arrive at a solution to our problem. This sudden understanding of the components of a problem that makes the solution apparent is known as Insight learning. The joyful remark is known as the "aha" phenomenon, that is, the flash of understanding which comes to us when we suddenly realise what the answer to our difficulties is. We have all experienced the sensation of the 'aha' moment at one time or another. Can you recall any one of such experiences? Insight occurs when the individual sees in a flash the solution to his problem.

In a problematic situation, the learner tries to solve the problem and this attempt involves the understanding of the components of a problem. As already noted, the sudden occurrence at arrival to the solution of the problem is known as Insight learning. Insight is also expressed as the "Aha" moment, that is, the flash of understanding which comes to us when we hit suddenly upon the solution to a problem. The Gestalts define learning as occurring through gaining of insight by understanding the relationships of various parts of a problem. They therefore placed more credence on insightful learning rather than trial and error like that of Thorndike or mechanical conditioning as performed by Pavlov in his classical conditioning theory. In other words, learning comes as a result of mental activity. This theory is of the opinion that parts are configured or organised 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). It is believed that meaningful learning can only take place through a sequence of problem-solving approach.

It may be said that insightful theory of learning concerns itself with higher thinking skills. Complex problems would require higher learning and solutions are reached only by application of insight. All new ideas and concepts, inventions and discoveries are the result of insightful learning. Learning by conditioning is common to all animals and human beings and useful for early education. But learning by insight is suitable only for intelligent creatures both human and animals and useful for higher learning.

Insightful learning is hinged on the fact that animals undergo a series of problem-solving approach following a sequence of principles 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. Learning by insight requires full comprehension of the situation as a whole.

Kohler's Experiment

To show the importance of learning by insight, Gestalt Psychologists performed several experiments using chimpanzees as subjects. In one of the experiments, a chimpanzee called Sultan was put in a cage. In the cage was a stool and banana, hung on the top of the cage. Initially, several unsuccessful attempts were made by Sultan to get the banana. Suddenly, sultan decided to pull out the stool and climbed it to get the banana from where it was hung. This type of learning is called insightful, because it involves problem-solving approach.

Another experiment was performed whereby Sultan was put in the cage with a banana and a stick lying outside the cage. It made a few attempts with its hands to get the banana but could not. Then it noticed a stick lying outside the cage. Picking up the stick, it successfully reached out and pulled in the banana.

The last experiment performed by Kohler on this insightful learning, was an extension of the second experiment. In this case, the chimpanzee (Sultan) was put in the cage, and a bunch of banana was placed at some distance outside the cage. This time, two sticks were provided, which could be fitted together to reach the banana. The hungry Sultan first attempted with its hands to get the banana. Then he took one of the sticks and tried to pull the banana nearer, then tried with other stick, but failed to reach it. By this effort, the chimpanzee became tired and left the attempts to reach banana and started playing with the sticks. While playing so, one of the sticks got fitted into the other and the stick became lengthier. Immediately an idea came to Sultan, it pulled the banana with this long stick. This 'sudden flash of idea' to reach the banana with a longer stick was called as 'Insight', by Kohler. All these experiments indicated that learning cannot take place in a segregated way but in a complete form.

The main features of insightful learning

Insight depends upon the following factors:

i) **Arrangement of the problem situation:** Learning through insight depends upon the arrangement of the problem situation. Insight will come easily if the essentials for solution are arranged so that relationships can be perceived.

ii) **Learning situation**: The nature of the situation is very important for insight learning. With insight, the organism tends to perceive a pattern or organisation that helps in learning.

iii) **From whole to parts:** The organism reacts to the whole situation not to component parts

iv) **Sudden awareness:** The solution comes all of a sudden i.e., insight is sudden.

v) **Intelligence:** Basic intelligence of the learner is an important factor in insightful learning. Insight is related with higher form of learning. Therefore, complex problems can be tackled through insight. It involves many higher order processes such as thinking, reasoning, intelligence

vi) **Past experience:** Insightful learning draws on past experience; past experiences assist in the insight of the problems. Learning gained in one situation helps the learner to react insightfully in other identical situations The experiences and perceptions of learners have a significant impact on the way that they learn.

Self-Assessment Exercises 2

1. What is insight learning?
2. Explain three main features of insight learning

6.3.3 Gestalt Laws of Perception

Gestalt psychologists conducted most of their experiments in the field of perception and made significant contributions in showing how configuration of the stimuli in the environment lead to easier perception. On the basis of these experiments, they developed the laws of perceptual organisation. Some of the basic laws as highlighted by Lumen Learning (2020) and Gautam (n.d.) are described below:

1. Figure-ground relationship

One Gestalt principle is the figure-ground relationship. According to this principle, there is a close relationship between figure and ground. Everything we perceive stands against a background. Our perceptual system will not let us see objects against objects. It allows us see figures against a background. For instance, we listen to a song against the background of music (Chauhan, 1978). When we look at dual-image figures like the vase/face figure in Figure 2, our perception can vary depending on what is perceived as figure and what is perceived as ground (Lumen Learning, 2020). When we are looking at one of the figures say the pair of faces, the vase disappears, likewise when we focus on the vase the face disappears.

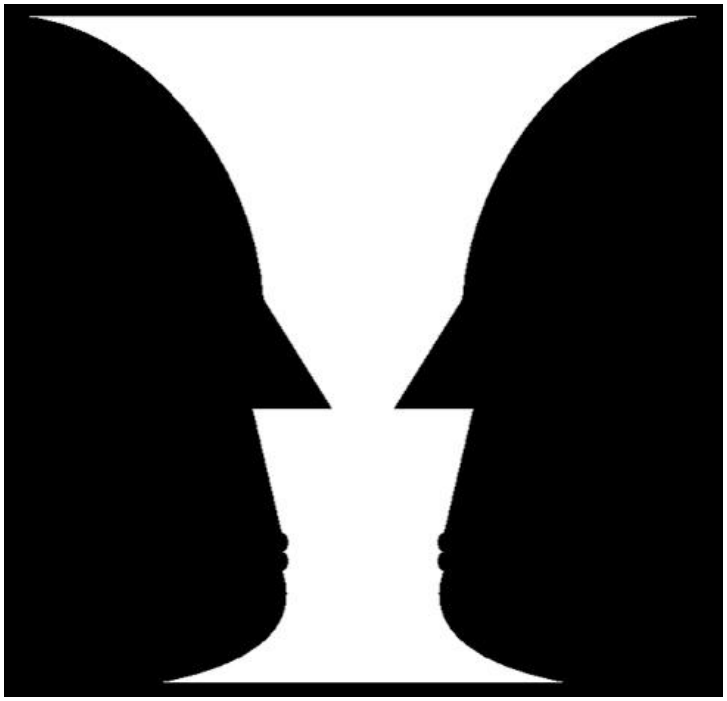

Figure 2: The concept of figure-ground relationship explains why this image can be perceived either as a vase or as a pair of faces.
Source: Lumen Learning, 2020).

(b) Law of Proximity

This law states that things that are close to one another tend to be grouped together, as Figure 3 illustrates. Elements are typically grouped together based on their nearness. The elements closest to each other tend to form a group as if they were one set. This law states that part of a visual field close together tend to become integrated as a complete and separate unit. It tends to form groups if they are spaced together. In other words, the closer two or more things are together the more they are learnt and remembered. That is why revision soon after a learning process is essential. In blackboard presentation of any teaching material, it is a bad habit if one aspect of the information is written in one corner of the board, and another aspect in another corner of the board (Alhassan, 2004).

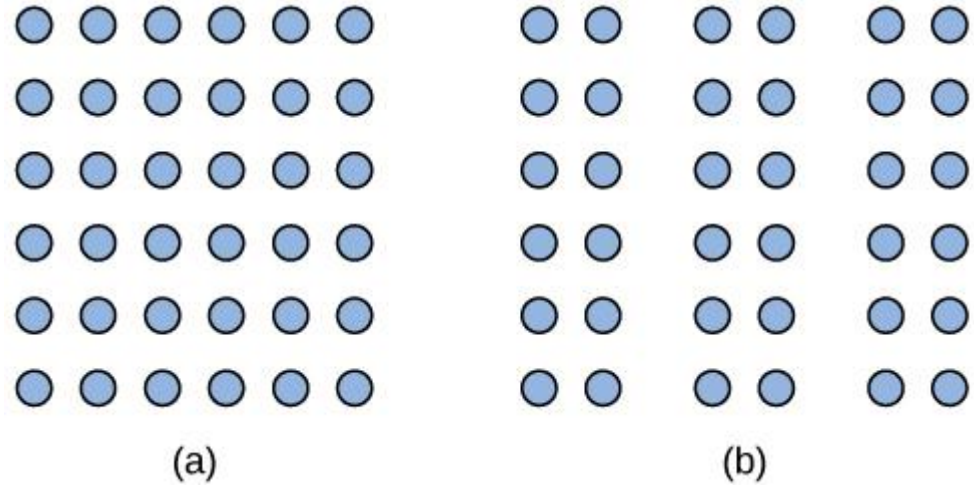

Figure 3: The Gestalt principle of proximity
Source: Lumen Learning, 2020

The Gestalt principle of proximity in Figure 3 suggests that you see (a) one block of dots on the left side and (b) three columns on the right side. We tend to pair the lines in (b) than looking at it as separate lines. Your perception tends to pair them up.

(c) Law of Similarity

According to this law, things that are alike tend to be grouped together. This law suggests that similar words, ideas, numbers and objects tend to associate in a group and easy to recall than dissimilar ones. Take a look at Figure 4 to illustrate the point. It suggests that in a visual field you tend to group together the parts which are similar because things that are similar are associated. This similarity can occur in the form of shape, colour, shading or other qualities. For example, when watching a football game, we tend to group individuals based on the colors of their uniforms. In classroom teaching, if the materials to be learned are presented in a well-organised manner with groupings of similar items, learners will perceive the materials better.

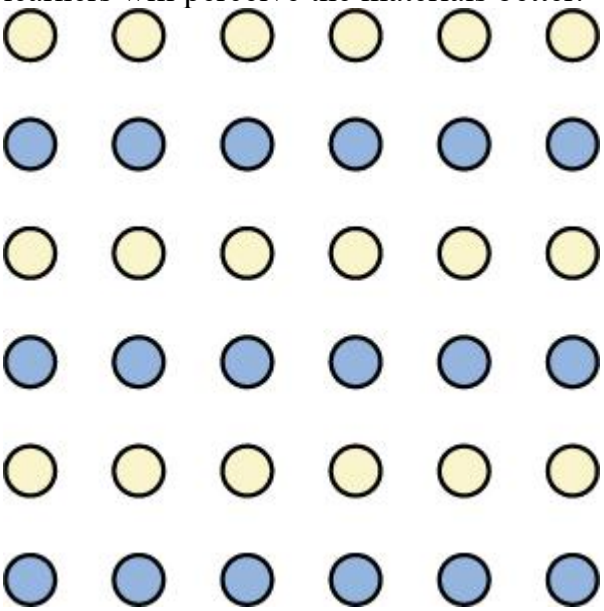

Figure 4: Law of similarity
Source: Lumen Learning, 2020

When looking at the visual field in Figure 4, we likely perceive alternating rows of blue and yellow colours (longitudinally). If the book is turned sideways, you will still see them in columns (vertically). Thus, learning similar things is easier than learning dissimilar things. we likely perceive alternating rows of colors. We are grouping these dots according to the principle of similarity.

(d) Law of Continuity

The law of continuity suggests that we are more likely to perceive continuous, smooth flowing lines rather than jagged, broken lines (Figure 5). In perception one tends to continue straight lines as straight lines and an incomplete circle as a complete circle.

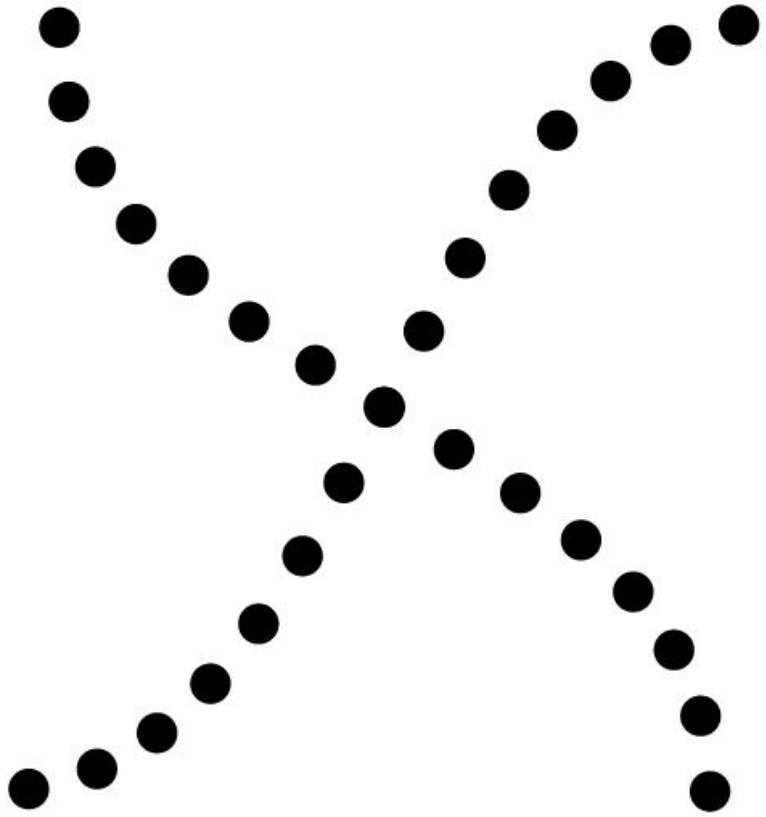

Figure 5: Law of Continuity
Source: Lumen Learning, 2020

Law of continuity would suggest that we are more likely to perceive Figure 5 as two overlapping lines, rather than four lines meeting in the center.

(e) Law of Closure

Law of closure states that our perceptual pattern always tends to be complete with no loose ends. This law suggests that we tend to close the open edges of a figure to make the stimulus configuration complete (see Figure 6). If we see a slightly curved curve that is practically closed, we will notice a circumference. Where there are gaps in a visual field, the observer tends to close them in order to organise them as meaningful wholes This law means that when the perception of a situation is incomplete, the individual is not able to solve the problem. The problem is solved when he is able to bring the separate parts of the situation together into a closed perceptual figure.

Figure 6. Law of Closure
Source: Lumen Learning, 2020

In Figure 6**,** the law of closure suggests that we will perceive a complete circle and rectangle rather than a series of segments.

Self-Assessment Exercises 3

Fill in the bank space

- According to the principle of, objects that occur close to one another tend to be grouped together.
- Our tendency to perceive things as complete objects rather than as a series of parts is known as the principle of _____.

According to the law of, we are more likely to perceive smoothly

- flowing lines rather than choppy or jagged lines.

6.4 Differences between Behaviourists and Cognitive (Gestalt) Theories of Learning

	Behaviourists Theories of Learning	**Gestalt Theories of Learning**
1	Response is programmed i.e., mechanical.	Response is systematic and organised in cognitive structure.
2	This learning 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 and experience gained can be used or transferred into another related task.
4	The result or outcome is the	Gestalt are more interested

	ultimate of the behaviourists.	in the processes and justification of a task
5	In this type of learning, learner becomes an 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 emphasise learner-centered approach. They believe in the "doing it yourself" system.
8	There is no association or interrelatedness of the problems.	This theory organizes the problems so that the learners can know the relationship between or among them. e.g. in one of the experiments, Gestalt placed banana and sticks side by side to show their relationship.

Self-Assessment Exercises 4

Highlight three advantages Gestalt theories have over behaviourist theories of learning

6.3.5 Classroom Implications of Gestalt Theory

1. Complex problems require higher learning and solutions are reached only by application of insight. Teaching and learning of some subjects such as physics, chemistry and mathematics as well as other science subjects demand higher mental exercises.

2. The whole is greater than its parts. On this, the teacher should present the subject matter as a whole to facilitate insight learning. Learners must be assisted to see the learning material as a whole and not as disjointed pieces. For instance, while teaching the

topic ‘Parts of a plant, the plant should be presented before the students and thereafter the parts should be taken up. Doing so would enable learners to develop understanding about the subject matter.

3. Insight is related with higher form of learning and the foundation stone of insight learning is intelligence. Therefore, the teacher should make use of problem-solving approach for better learning by encouraging their students to discover the relationship of the elements that make up a problem in order that the learner will be able to solve problems by insight.

4. Learners should discover concepts, meanings and relationships on their own. Therefore, the teacher can foster the use of discovery learning, which will make students become active participants in their own learning. Knowledge that is self-discovered is more significant to the learner and is remembered better.

5. As insight depends upon the previous experience of the learner, the teacher should be able to relate the previous experience of the learner to the new learning. By so doing, students will be able to learn better.

6. The teacher should organise the learning situations in a manner that makes insight possible so that significant relations emerge and understanding of the material results, i.e., the learning experiences should be so arranged that the learner discovers the relationship between the elements of the problematic situation. Clues should be provided to facilitate the application of insight e.g., the two sticks for Sultan.

7. Age influences insight learning. Insight, like other learning, depends upon the capacity/experience/age of the learner. Older children, for example, can learn things more easily than younger children.

6.4 Summary

In this unit, you have learnt the cognitive field theories of learning (Gestalt theory) and how insight learning takes place. You have also learnt about the gestalt laws of perception. 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 teaching/learning activities.

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6.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1
The underlying principles of cognitive field theory (Gestalt theory) of learning:

Cognitive Field theory or Gestalt theory emphasises the importance of wholes over parts and that the whole of anything is greater than the sum of its parts. According to the theory, perception of a situation as a 'whole' gives better understanding than the sum of its parts. The theory lays emphasis on cognitive structure and on perception of the total field by the individual. The Gestalt psychologists believe that learning occurs by insight. The Gestalt theory of learning is also named as Learning by Insight.

Answers to SAEs 2
1. What is insight learning? Any one of the following definitions:

Insight learning is the flash of understanding which comes to us when we suddenly realise what the answer to our difficulties is.

Or

The sudden understanding of the components of a problem that makes the solution apparent.

Or

The flash of understanding which comes to us when we hit suddenly upon the solution to a problem. The joyful remark is known as the "aha" phenomenon.

2. Four features of insight learning:

i) According to Gestalt theory, learning occurs by insight. Learning through insight depends upon the arrangement of the problem situation. Insight will come easily if the essentials for solution are arranged so that relationships can be perceived.

ii) Insight learning draws on past experience. Past experiences assist in the insight of the problems. Learning gained in one situation helps the learner to react insightfully in other identical situations. Gestalt psychology proposes education to be an integration of affective and cognitive domains of learning.

iii) Basic intelligence of the learner is an important factor in insightful learning. Insight is related with higher form of learning. Therefore, complex problems can be tackled through insight.
iv) The insightful solution comes all of a sudden i.e., insight is sudden

Answers to SAEs 3
Provide the answers yourselves. I know you can do it. Crosscheck your answers with the details provided under sub-section 6.3.3

- According to the principle of, objects that occur close to one another tend to be grouped together.
- Our tendency to perceive things as complete objects rather than as a series of parts is known as the principle of _____.
- According to the law of, we are more likely to perceive smoothly flowing lines rather than choppy or jagged lines.

Good!! You have provided the correct answers! Let's go on with our discussion.

Answers to SAEs 4
The advantages that Gestalt theory has over behaviourist theories is the fact that (1) gestalt theory lays emphasis on insightful learning which is useful for higher thinking. (2) The learner plays an active part in learning and being involved in finding out the solutions to the problems being investigated. (3) The learning process is based on the problem-solving approach which emphasises a learner-centered approach. It requires intelligence, most suited for problem-solving.
Describe the underlying principles of cognitive field theory (Gestalt theory) of learning

Answers to SAEs 5
The implications of Gestalt theory on learning:
Choose any three of the classroom implications of the theory provided under sub-section 6.3.5

Seminar Topic

Explain the importance of insightful learning in education

UNIT 7 EDWARD TOLMAN AND BENJAMIN BLOOM'S THEORIES OF LEARNING

Unit Structure

7.1 Introduction

This unit focuses on Edward Tolman and Benjamin Bloom's Theories of Learning. 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 all of these in this unit.

7.2 Learning Outcomes

By the end of this unit, you will be able to:

- define sign learning theory of Tolman
- explain Blooms' taxonomy of learning domains
- discuss how you would evaluate your students on the various levels of learning domains.

7.3 Edward Tolman and Benjamin Bloom's Theories of Learning

7.3.1 Tolman's Theory of Sign Learning

Tolman lived between 1886 and 1959. He was an American Psychologist. According to Tolman's theory, an organism learns by pursuing signs to a goal. Tolman's theory combines the advantages of stimulus-response theories and cognitive field theories and is often considered the bridge between behaviorism (S-R theory) and cognitive field theory. The theory is also known as "purposive behaviourism". This theory takes into consideration that learning is based upon some signs or clues leading to the goal. Tolman assumed that learning developed from knowledge about the environment and how the organism relates to its environment. For Tolman, reinforcement was not necessary for learning to occur, however, this must enter the picture (be in focus) if learning is to be manifested in performance.

To test his theory, Tolman placed hungry rats in a maze that he constructed to see if the rats could find their way around the maze. As the rats explored the maze, they learnt to navigate through the maze. Through the experiment, he demonstrated that the rats learned the layout of the maze, and did so without reinforcement. After some trials, a food item was placed in a certain point of the maze, and the rats learned to navigate to that point very quickly. It learns the "signs" (cues, stimuli) that tell it where the food was placed. The rats succeeded in finding their way because they were able to develop a cognitive map (a mental picture of the layout of the maze) of the maze that led it to its goal. He explained that reinforcement (food) may serve as motivation, but is not a crucial factor affecting learning.

Tolman argued that humans engage in this type of learning everyday as we pass through the same route daily and learn the locations of various buildings and objects. Tolman's experiment with rats suggested that rats knew how the maze in which they were put was structured because they had its mental map. Accordingly, Tolman concluded that rather than an automatic response to an event, behavior had both purpose and direction and occurred without reinforcement.

The main features of this theory are as follows:

(a) Behaviour is goal-directed i.e., it is purposive.
(b) Behaviour makes use of environmental factors as means for getting at the goal.
(c) Behaviour consists of the formation of cognitive maps.
(d) The organism has a selective preference for the "principle of least effort", for arriving at the goal.

Self-Assessment Exercises 1

Briefly describe the basic ideas in Tolman's theory of sign learning

7.3.2 Bloom's Taxonomy of Learning Domains

Benjamin Bloom developed three levels of educational activities for classifying learning outcomes or objectives. These are cognitive, affective and psycho-motor domains. The categories under each domain are arranged in increasing order, starting from the simplest to the most complex one. Each domain included different stages. These stages assist the teacher in writing the objectives, designing the learning tasks or activities and preparing the assessments. These domains are:

1. Cognitive Domain

This deals with knowledge acquisition. It emphasises the development of mental or intellectual skills. There are six categories of this domain. The categories are formed in a hierarchy from lower order to higher order thinking skills; the first ones must first be mastered before the next one can take place; you cannot understand a concept if you do not first remember it, similarly you cannot apply knowledge and concepts if you do not understand them. Bloom describes each category as a noun. These categories are:

a. 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'.

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

c. 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.

d. 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.

e. 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. Examples are composition, compilation, explanation, modification, reconstruction, relating, rearranging, revision etc.

f. 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.

Bloom's taxonomy has been revised to account for 21st century needs (Anderson & Krathwohl, 2001). The main change in the revision was the use of verbs rather than nouns for each of the categories and a rearrangement of the last two categories. The updated taxonomy is as follows:

- Remembering
- Understanding
- Applying
- Analysing
- Evaluating
- Creating

This new taxonomy reflects a more active form of thinking and is perhaps more accurate (Zhou & Brown, 2017).

Both the original and the revised taxonomies are displayed in Figure 7.

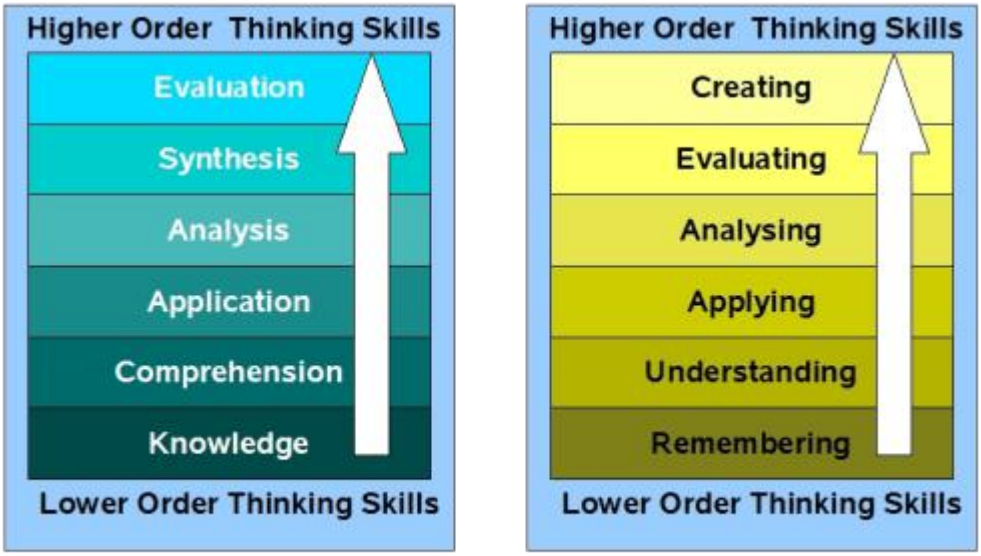

Figure 7: Bloom's Taxonomy
Source: Bloom's Digital Taxonomy | innovative schools wazmac.com
The arrow shows the direction of the hierarchy from lower order to higher order thinking skills.

We have discussed the cognitive domain, now, let's discuss the affective domain.

2. Affective Domain

The affective domain involves our feeling, emotions and attitudes. It describes how we deal with things emotionally, such as feelings, values, appreciation, attitudes and motivation. This domain is divided into five hierarchical categories, with "receiving" at the lower end up to "characterisation" at the top. These are:

a. Receiving Information or fact: It involves passively paying attention and being aware of information being passed onto us. It emphasises our willingness to hear or listen to others (feel, sense, experience).

b. 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. You are not only aware of the information, but reacting to it in some way (satisfaction, enjoyment, contribute).

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

d. Organisation: This is the process of organising values into priorities in order to compare them and decide on the most appropriate ones. (examine, clarify, integrate)

e. Characterisation: This is the highest of the affective domain. It is about internalising 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 guide their behaviour (review, conclude, judge).

3. Psycho-motor Domain (doing)

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 seven categories namely, perception, set, guided response, mechanism, complex overt response, adaptation and origination.

Self-Assessment Exercises 2

1. What are the three levels of learning domains in Bloom's taxonomy?
2. Why do you consider the Bloom's taxonomy of learning domains a very important tool in your teaching-learning activities? Give three reasons for your answer.
3. Explain the relationship between cognitive and affective domains.

7.4 Summary

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 be able to apply the principles in their daily classroom teaching/learning activities.

The Bloom's taxonomy of learning domains is very significant in our teaching-learning activities because they allow teachers to plan their teaching, write the objectives, design the learning tasks and prepare the assessments. It is very important that teachers are conversant with these learning domains and be able to apply the principles in their daily classroom teaching-learning activities.

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7.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1
The basic ideas in Tolman's theory of sign learning: One of the importance of sign learning is about how the individual can use the

environmental factors to obtain a goal. It is a goal-oriented learning. According to Tolman's theory, an organism learns by pursuing signs to a goal. The theory is also known as "purposive behaviourism". This theory takes into consideration that learning is based upon some signs or clues leading to the goal. Tolman assumed that learning developed from knowledge about the environment and how the organism relates to its environment. Its main ideas are that (a) behaviour is goal-directed, (b) behaviour makes use of environmental factors as means for getting at the goal, (c) Behaviour consists of the formation of cognitive maps, (d) The organism has a selective preference for the "principle of least effort", for arriving at the goal.

Answers to SAEs 2

1. The three levels of learning domains in Bloom's taxonomy are the cognitive, affective and psycho-motor domains
2. Three reasons why the Bloom's taxonomy of learning domains is a very important tool in the teaching-learning activities is because they allow teachers to plan their teaching, write the objectives, design the learning tasks and prepare the assessments.
3. The relationship between cognitive and affective domains:

The cognitive domain deals with knowledge acquisition. It emphasises the development of mental or intellectual skills. There are six categories of this domain, starting from the simplest to the most complex one. The affective 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. In education, there has to be an integration of affective and cognitive domains of learning such that in setting the learning objectives, teachers should make sure to not only focus on the cognitive domain of learning but also on the affective and psychomotor domains as well.

Seminar Topics

Each student is expected to present seminar paper on one of the following topics:

1. What relevance has sign learning theory on teaching/learning activities?
2. Think of a topic in your field. Discuss how you would evaluate your students on the six levels of cognitive domain

MODULE 3 PERMANENCY IN LEARNING

Having completed our discussion on Theories of Learning and their Educational Implication in the units of the previous module, we are now turning our attention on different areas of psychology. The units of the previous module focused on Theories of learning and their educational implications. The Module 3 discusses the relevance of permanency in learning. It has been noted that the essence of education is to provide meaningful learning experiences that will foster a permanent change in students' behaviour. How much a student has been able to retain knowledge, the application of that knowledge to real life situations and the various motivational strategies the teacher used to sustain the interest of the students in the classroom would contribute in promoting the permanency of learning. The topics under this module are organised into four study units as follows:

Module Structure
Unit 1 Retention in Learning
Unit 2 Transfer of Learning
Unit 3 Motivation in Learning
Unit 4 Behaviour Modification in the Classroom

UNIT 1 RETENTION IN LEARNING: MEMORY, REMEMBERING AND FORGETTING

Unit Structure

1.1 Introduction

In this unit, we are looking at the topic of Retention in Learning: Memory, Remembering and Forgetting. If you learn a body of knowledge in the past and fail to remember it, it means you have forgotten. What do you think is responsible for this? In this lesson, you

are going to learn reasons why learners sometimes forget what we have taught them and also discuss how we can help learners remember what they have learnt. Here, you will learn the concepts of memory, types of memory and the mechanisms that operate in them, strategies for enhancing memory and how a teacher can promote retention in the classroom.

1.2 Learning Outcomes

By the end of this unit, you will be able to:

- define memory
- discuss types of memory
- discuss different strategies of enhancing memory in students
- explain the causes of forgetting
- explain how a teacher can promote retention in the classroom.

1.3 Retention in Learning: Memory, Remembering and Forgetting

1.3.1 What is Memory?

Retention is the ability to store in the memory information received from the environment.

Memory is the evidence that meaningful learning has taken place. It is the ability of someone to recall what has been previously learnt. It is the ability to acquire and retain information and recall it when needed. Without good memory, one will not be able to retain previous learning. Memory is fundamental for remembering and forgetting. It is the life wire on which the study of remembering and forgetting rests.

Self-Assessment Exercises 1

Define the term ‘memory’

1.3.2 Types of Memory

Memory has been categorised into various kinds but here we shall be considering only two major types of memory and the mechanisms that operate in them. They are short-term memory and long-term memory.

a) Short-Term Memory (STM)

Human beings have limited attention and typically can only attend to just one input channel at a time; and when this piece of input (information) is received, it is placed in the short-term memory (STM), which is the working memory where an individual does his/her thinking (Crowl, Kaminsky and Podell, 1997). Crowl and his associates explain that when a piece of information is acquired it must be properly processed, otherwise, such information dies off, and thus it becomes increasingly difficult for an individual to remember or recall such an idea. This therefore implies that a piece of information must be learnt repeatedly, and must not be too large at a time; otherwise, the STM may throw away some parts of the information.

Short-term memory is limited in both the length and the amount of information it can hold. It stores information temporarily for 20 seconds, and unless the receiver of the information acts on it, the information is forgotten. Similarly, the storage capacity of STM can hold is limited. It can only hold a small amount of information at a time (9 items). Any item above this capacity is thrown away. Therefore, for pieces of information to be stored in the STM at one time or the other, it must not be too large.

The retention of information in the short-term memory can be disturbed by other events that take place shortly after the learned materials. For instance, name of a person you just met remains in STM only momentarily. Unless a conscious effort is made to pay proper attention to the name, it is quickly lost. To help make sure information is kept in short-term memory, you can use memory-enhancing strategies (Lumen Learning, 2020). Let's consider some of these strategies.

Ways to enhance the short-term memory

One way to keep information in short-term memory is to use rehearsal. Rehearsal is a process by which we exercise the repeat of a piece of information so that such information does not elope from STM after the 20 seconds capacity of the STM. Rehearsal is also defined as the conscious repetition of information to be remembered (Craik & Watkins, cited in Lumen Learning, 2020). Think about how you learned your multiplication tables as a child. You may recall that 3 x 3 = 9, 3 x 4 = 12, and 3 x 8 = 24. Memorising these facts is rehearsal.

Maintenance rehearsal is the process of repeating information mentally or out loud with the goal of keeping it in memory. We engage in maintenance rehearsal to keep a something that we want to remember (e.g., a person's name, e-mail address, or phone number) in mind long

enough to write it down, use it, or potentially transfer it to long-term memory (Stangor, 2012). For example, if a police officer on the highway wants to keep the information of a vehicle whose driver has decided not to obey the stop and search service of the police on the check point, the officer could repeatedly (within a minute) recite the plate number information to another officer who then records it. This will enable the officer to easily track down the escaping vehicle another time. Another example of maintenance rehearsal would be repeating a phone number mentally, or aloud until the number is entered into the phone to make the call. The number is held in short term memory long enough to make the call, but never transferred to long term memory. An hour, or even five minutes after the call, the phone number will no longer be remembered (Wikipedia.org). So, maintenance rehearsal is just temporarily maintaining the piece of information in the short-term memory.

Another strategy by which we can keep information in short term memory is by chunking. It is the process of organising information into manageable bits or chunks. As Lumen Learning (2020) suggests, chunking is useful when trying to remember information like dates and phone numbers. Instead of trying to remember 08039436745, you remember the number as 0803-943-6745. So, if for example you met someone at a social gathering and you wanted to remember her phone number, you would naturally chunk it, and you could repeat the number over and over, which is the rehearsal strategy.

In summary, maintenance rehearsal and chunking are strategies that are used to keep information in short-term memory.

All along, we have been discussing about short-term memory and ways in which we can keep information in short-term memory. Now, let's consider the nature of long-term memory.

Long-Term Memory (LTM)

It is an aspect of memory that can hold information over a long period of time. Unlike short-term memory, the storage capacity of long-term memory is large and has no limits. Example is remembering our identifying data like our name, father's name, date of birth, date of marriage, and remembering the materials for our various courses.

There are two kinds of LTM:

i. Semantic Long-Term Memory
ii. Episodic Long-Term Memory

The semantic memory is responsible for storing factual information and general knowledge of the world, such as the meaning of words, ideas, and concepts. For example, you know that a "Hoe" is used in tilling the ground and having a wooden handle and an iron blade. You know that Abuja is the capital of Nigeria. These are pieces of factual knowledge.
Example: answers to the following questions are stored in your semantic memory:

- What is the capital of Nigeria?
- Who was the first President of Nigeria?
- What is democracy?
- What is the longest river in the world?
- What is a farm hoe?

The episodic long-term memory is where memory of personal experiences and events that happened to you are stored. An example would be a memory of our first day at school or a memory of an accident scene that you witnessed.

The difference between semantic and episodic long-term memory is better understood by the example provided in the box below.

Semantic memory might contain information about what a dog is, whereas episodic memory might contain a specific memory of a day you were bitten by a dog while going to school.

Self-Assessment Exercises 2

1) Compare and contrast short term memory and long-term memory in terms of the length and the amount of information they can hold 1) Differentiate between maintenance rehearsal and elaborative rehearsal 2) Fill in the missing words with the options provided: Mary can remember a great deal of numbers because she groups them all in sets of 3 to aid recall. She is using the technique of _____. Chunking (b) elaborative rehearsal (c) maintenance rehearsal (d) mnemonics

1.3.3 Strategies for Enhancing Memory in Students

Some of the methods by which information is stored in long term memory are:

a. **Elaborative rehearsal**: It involves repetition of information and linking it with information already stored in the long-term memory in order to retain the newly learned information, so that it can be retrieved for use when needed. In elaborative rehearsal, effort is made to pass on a piece of information from short term memory into long-term memory by relating new information to prior knowledge. Each person has his or her unique way of elaborating on information; the important thing is to try to develop unique and meaningful associations among the material (Stangor, 2012). Material is better remembered if it is processed more fully.

b. **Sentence creation:** This is otherwise called verbal elaboration. It is a process by which a sentence is made with a learned concept as a component. For example, when a child is taught the alphabets, the teacher often associates the letters with an object as "B" for Ball, "E" for Elephant. The sentences that could be made are "B" for Ball", "kick the ball", "E" for Elephant, an elephant is big. When this is repeatedly done, the child easily recalls the concept being passed.

c. **Creation of mental picture:** When a concept is associated with an object as shown above, the child will recall quickly. E.g., letter B as in Ball. Whenever the child comes across letter B, she/he can also visualise a ball.

d. **Use of mnemonic devices:** A mnemonic is any learning technique that aids information retention or retrieval in the human memory. Here a learner could use acronyms i.e., first letter of each of the points being mastered, or an arrangement that makes the points meaningful to pronounce. Thus, when the individual wants to recall, it will be very easy to retrieve it from memory. A typical example is the arrangement of the characteristics of living things as MR NIGER-D i.e., M=Movement, R=Respiration, N=Nutrition, I=Irritability G=Growth, E= Excretion, and R=Reproduction, D=Death.

e. **Meaningfulness and organisation of subject matter**. One of the ways to improve retention is the method of making the subject matter meaningful. Meaningful material is easy to retain because it is better learned.

Self-Assessment Exercises 3

Explain two ways in which a teacher can enhance the long-term memory in students

1.3.4 Remembering and Forgetting

It is clear that two things happen to what we learnt; we either remember it or forget it.

Remembering is the ability to recall stored ideas or materials in the brain to the mind.

Forgetting means failure to retain what has been acquired or learnt. If an individual fails to remember what he/she has learnt in the past, it means the individual has forgotten. Forgetting therefore means the failure at any time to recall an experience, when attempting to do so. Forgetting is the opposite side of remembering.

Causes of Forgetting

There are many reasons why and how people forget what they have learnt. This is better understood with the aid of some theories of forgetting.

1. **Trace Decay Theory:** This explanation of forgetting assumes that memories follow a certain pathway or trace in the brain. Trace decay theory states that forgetting occurs as a result of the automatic decay or fading of the trace of memory. After a relatively longer period of time, a piece of acquired information dies off the memory and an individual find it difficult to remember it again. Examples of this are the experiences acquired in the earlier part of one's life; and as the body systems grow, in addition to several experiences acquired, the earlier learned facts tend to go into extinction.

2. **Interference Theory:** This theory maintains that one may fail to remember a piece of information because other pieces of information are blocking or interfering with it. There are two ways in which interference can cause forgetting:

(a) **Retroactive Inhibition:** It occurs when you forget a previously learnt task due to the learning of a new task. When a person has just acquired a piece of information, the tendency is that the earlier acquired information becomes increasingly difficult to be remembered or even get lost. For example, when a person relocates to a new area of the city, there is the tendency for him to forget addresses of his earlier location in the city.

(b) **Proactive Inhibition:** This is typically the opposite of the retroactive inhibition. Here the old learning retained in the

memory works forward to interfere with the retention of something currently learnt. In the above example, the inability of the individual to remember the present address but remembering the previous address is as a result of interference of the first experience.

1. **Cue-dependence:** This is the failure to recall information due to missing cues that were present at the time the information was encoded. Sometimes we want to recall a piece of information but we cannot due to non-availability of appropriate cues that were present at the time the information was encoded. In other words, when cues that were present at the time of learning are not available at the time of recall, retention suffers. Therefore, in order to remember a learned idea, an individual needs some cues that will aid it. For instance, you might want to try to study for an exam in a situation that is similar to the one in which you are going to take the exam. Without this, the possibility for a piece of information to go into extinction is there.

Self-Assessment Exercises 4

1. What is Remembering?
2. What is Forgetting?
3. Discuss three reasons why students forget what they have learnt

1.3.5 How a Teacher can Promote Retention in the Classroom

In order for learners to benefit from school activities, and to also apply classroom learning into future use, they have to have good memory of classroom activities and learned subject-matter. It is therefore the role of the teacher to assist the learners, train them in various rehearsal skills. Among such activities are:

1. Always associate a current learning with practical examples.
2. Use concrete objects to demonstrate objects learned in the classroom
3. Teach the use of mnemonic devices, in order to aid recall.
4) Field trips and excursion: seeing things practically and drawing personal conclusion and discovery enhance retention and information gathered tend to remain permanent.

Self-Assessment Exercises 5

Explain how a teacher can promote retention in the classroom

1.4 Summary

In this unit you have learnt the concept of memory and types of memory, why people usually forget what they have learnt in the past and how they can remember or recall earlier learning. The unit will therefore assist the learners and teachers alike on how to improve the status of their memory and void forgetting.

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1.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1
Memory is the ability of someone to recall what has been previously learnt. It is the ability to acquire and retain information and recall it when needed. Without good memory, one will not be able to retain previous learning.

Answers to SAEs 2

1) Comparing short term memory and long-term memory in terms of the length and amount of information they can hold.

Short term memory

- Short-term memory stores information temporarily for 20 seconds, and unless the receiver of the information acts on it, the information is forgotten.
- Similarly, the storage capacity of short-term memory is limited. It can only hold a small amount of information at a time (9 items). Any item above this capacity is thrown away.

Long term memory

- Long-term memory (LTM) can hold information over a long period of time
- The storage capacity of LTM is large and has no limits. Example is remembering the materials for our various courses.

2) Maintenance rehearsal is a memory enhancing strategy that involves repetition of information to allow one to act upon it. It involves repeating information without thinking about its meaning or connecting it to other information. It is just temporarily maintaining the piece of information in the short-term memory.

   Elaborative rehearsal is a technique in which you think about the meaning of the new information and its relation to knowledge already stored in your memory. It is a memory technique that involves thinking about the meaning of the term to be remembered, as opposed to simply repeating the word to yourself over and over. In elaborative rehearsal, effort is made to pass on a piece of information into long-term memory.

3) Mary can remember a great deal of numbers because she groups them all in sets of 3 to aid recall. She is using the technique of *chunking*

Answers to SAEs 3

Two ways in which a teacher can enhance the long-term memory in students: Choose any two of the methods described under sub-section 12.3.3

Answers to SAEs 4

1. Remembering is the ability to recall stored ideas or materials in the brain to the mind.
2. Forgetting means failure to retain what has been acquired or learnt.
3. Three reasons why students forget what they have learnt

Choose any three of the reasons described under sub-section 12.3.4

Answers to SAEs 5

A teacher can promote retention in the classroom through the following ways:

- By associating a current learning with practical examples.
- By using concrete objects to demonstrate objects learned in the classroom
- By teaching the use of mnemonic devices.
- By encouraging the use of field trips and excursion

UNIT 2 TRANSFER OF LEARNING

Unit Structure

2.1 Introduction

The ability of the individual to apply the previous experiences, skills and information they have learnt to a new situation or context is what we call transfer of learning. Except students are able to transfer prior skills and knowledge on new ones, the continuity of learning will be difficult. This unit will explain how old learning can be transferred to a new one. You will know what the classroom teacher needs to do in order to facilitate transfer of learning among their students.

2.2 Learning Outcomes

By the end of this study, you will be able to:

- define transfer of learning
- state the difference between types of transfers of learning
- explain how transfer of learning occurs from the lens of major theories of transfer of learning
- discuss ways in which a teacher can foster positive transfer of learning among learners.

2.3 Transfer of Learning

2.3.1 What is Transfer of Learning?

The essence of learning is that a previously learnt fact should be linked with a present experience. This is because human being must be

dynamic and that the prior experience will make them to develop the new skills and knowledge. The influence the past experience has on the succeeding experience is called transfer of learning. Cormier and Hagman, (1987) define transfer of learning as the application of skills and knowledge learned in one context being applied in another context. Oladele (1998) defines transfer of learning as the effect of prior learning on the present. In other words, when experiences which have been acquired in one learning situation can be used to solve problems in a new situation, we can say transfer of learning has taken place.

In the school, the teachers teach different subjects in order that the experience gained in those subjects could be transferred into another. Charham (1987) affirms that human and animal learning is normally affected by the past experience, and that the various subjects are included in the school curriculum because of their utility and wide application to real life situations. For instance, the teacher who has taught his/her students some skills in Mathematics would believe that such skills be transferred to related subjects like Physics or Accounting. If the students fail to apply these skills in their subsequent learning, it means that the students have not been successful in transferring the learning.

The above example gives us clues into the different types of transfer of learning that we have. These are explained under sub-section 2.3.2:

Self-Assessment Exercises 1

What is transfer of learning?

2.3.2 Types of Transfer of Learning

There are three types of transfer of learning namely:

(a) Positive Transfer
(b) Negative Transfer
(c) Zero Transfer

(a) Positive Transfer: This is a situation whereby previous learning aids in the understanding of a new learning. Aside from aiding the learners in their subsequent learning, it also helps the learners to learn better and effectively the new task. Positive transfer is one of the most important goals of teachers as every teacher thrives to ensure than students learn to apply what they have learned to new situations, in and out of school. For instance, driving a car could facilitate learning to

drive a bus. Skills in playing violin could facilitate learning to play piano. Another example of positive transfer of learning is that a student who has learnt about anatomical parts of human being in a Biology lesson, should be able to do well when he/she is asked to name anatomical parts of a goat during Agriculture lesson.

Positive transfer is one of the most important goals of teachers as every teacher thrives to ensure that students learn to apply what they have learned to new situations, in and out of school.

(b) Negative Transfer: Negative transfer occurs when something we've learned previously hinders or interferes with present learning that is similar to the first. In other words, the understanding of past skills inhibits the mastering of new ones. For instance, a child that has learnt to pronounce BUT correctly now finds it difficult to pronounce PUT correctly. Right hand drive vehicles hindering the learning of left-hand drive.

(c) Zero Transfer: Zero transfer occurs when previous learning has no effect on new learning. It means that previous skills or knowledge have no effect on learning new skills or knowledge. For instance, learning how to cook has no effect on learning how to sing or drive.

Self-Assessment Exercises 2

1.	Write short notes on:
i.	Positive Transfer
ii.	Negative Transfer
iii.	Zero Transfer

2.3.3 Theories of Transfer of Learning

These are theories that attempt to explain how transfer of learning occurs

a. Theory of Mental Faculties: This theory was propounded by the Greek Philosophers, notable among them was Aristotle. The basic tenet of the theory is that human mind is sub-divided into different powers of faculties like memory, judgment, reasoning or thinking. These faculties were likened to the muscles of the body which can be strengthened by physical exercise. It was felt that those mental faculties could be strengthened in the same way that exercise strengthens the body; the more difficult the mental exercise, the more impact it would have on the faculties. The essential requirement of the theory was to provide hard intellectual work to the learner to train his mental faculties. This theory believes that exercises and regular practice will strengthen the mental

faculties. Subjects like Mathematics, Latin and Greek were regarded as best subjects to train the various mental faculties of students. Transfer occurs because of mental exercise gained from studying specific topics

b. Theory of Identical Elements: The theory which was developed by Thorndike indicates that it is possible for an individual to transfer the prior skills and knowledge to the new learning provided both experiences are identical (share things in common). This theory maintained that transfer takes place from one learning situation to another if the two different learning situations are identical. This theory suggests that a successful or effective transfer of learning will happen if there are connections or interrelatedness between the old and the new learning. For example, it is expected that a student who has learnt about anatomical parts of human being in a Biology lesson, should be able to do well when he/she is asked to name anatomical parts of a goat during Agriculture lesson.

Few examples are given below which show the transfer from one situation to the other:

Training in: Transferred to:

Piano → Typing/Computer
Latin → English
Car Driving → Bus Driving
A person who knows to drive a car can easily learn to drive a bus

c. Theory of Generalisation: This theory was advocated by a Psychologist named Charles Judd. The assumption of the theory is that general principles aid transfer of learning better than segregated facts. According to him, one way of facilitating transfer is by teaching learners' general principles rather than specific facts. He was of the opinion that teaching should proceed from general to specifics. This theory believes in Gestalt, an assertion which views learning from a whole or complete form rather than in isolated form. The theory contends that transfer occurs as a result of general principles which one learns in a situation. As a result, one is able to apply those generalisations to a new situation. For example, the theory of generalisation indicates that a learnt experience should be useful in other day-to-day related activities.

Self-Assessment Exercises 3

Briefly describe the theory of identical element in attempt to explain how transfer of learning occurs

2.3.4 How a Teacher can Foster Positive Transfer of Learning among Learners

1. The teacher should know that transfer of learning will not take place when both the old and new are unrelated. Hence, the teacher should endeavour to teach his/her subject-matter in a more meaningful and detailed way rather than by rote.

2. Active participation of the students in the teaching-learning activities.

The teacher should provide the opportunity for his/her students to practice a subject-matter being discussed along with him/her. When the learners are allowed to take active part in teaching/learning activities, they will be able to repeat the task at another time.

3. For a transfer of learning to take place, the teacher should always emphasise the relationship that exists between one subject-matter and another.

4. The teacher should endeavour to develop positive attitudes towards a learning task so that the students can be motivated to like the task rather than it.

5. It is believed that what students see, touch, feel or manipulate will be better remembered than the one they are not familiar with. Hence, for meaningful transfer of learning to take place, the teacher should incorporate exercises that task the various senses of learners in the learning process.

6. Make sure that general principles are understood. The teacher must ensure that general principles have been thoroughly understood by the students in order to maximise the amount of classroom learning experiences to life situations.

7. The teacher should make students see relationships between what you teach and life situations (relate theory to practice).

Self-Assessment Exercises 4

List five ways in which a teacher can foster positive transfer of learning among learners

2.4 Summary

The relevance of transfer of learning has been stressed in this unit. Transfer of learning is an important aspect of teaching-learning since the ultimate goal of schooling is to help students to transfer what they have learnt in school to real-life situations. The knowledge gained in this lesson will help the teachers on the action programmes that can facilitate learning transfer.

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2.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1
What is transfer of learning? - Any one of the following definitions:
Transfer of learning is the application of skills and knowledge learned in one context being applied in another context.
Or
Transfer of learning as the effect of prior learning on the present. In other words, when experiences which have been acquired in one learning situation can be used to solve problems in a new situation, we can say transfer of learning has taken place

Answers to SAEs 2

i. Positive Transfer: Transfer is said to be positive when something previously learned aids in the understanding of a new learning. For instance, driving a car could facilitate learning to drive a bus.
ii. Negative Transfer: Transfer is said to be negative when prior learning hinders or interferes with new learning. For instance, a child that has learnt to pronounce BUT correctly now finds it difficult to pronounce PUT correctly. In this case, the understanding of past skills inhibits the mastering of new ones.
iii. Zero Transfer: This type of learning reveals no link between the previously learnt task and the recent one. For instance, learning how to cook has no effect on learning how to sing or drive.

Answers to SAEs 3

The theory of identical element maintained that transfer takes place from one learning situation to another if the two different learning situations are identical. Transfer takes place because of the common elements in both situations. This theory suggests that a successful or effective learning will happen if there are connections or interrelatedness between the old and the new learning. For example, it is expected that a student who has learnt about anatomical parts of human being in a Biology lesson, should be able to do well when he/she is asked to name anatomical parts of a goat during Agriculture lesson.

Answers to SAEs 4

Five ways a teacher can enhance positive transfer of learning among learners

- By making the subject-matter meaningful.
- By providing the opportunity for students to practice a subject-matter being discussed.
- By emphasising the relationship that exists between one subject-matter and another.
- The teacher should endeavour to develop positive attitudes towards a learning task so that the students can be motivated to like the task rather than it.
- By creating a conducive learning environment where students become active participants in their own learning.
- By incorporating exercises that task the various senses of learners in the learning process.
- By ensuring that general principles are thoroughly understood by the students in order to maximise the amount of classroom learning experiences to life situations
- By making students see relationships between what you teach and life situations (relate theory to practice).

UNIT 3 MOTIVATION IN LEARNING

Unit Structure

3.1 Introduction

In the previous unit you learnt about transfer of learning. In this unit we are looking at the topic of Motivation in Learning. What is it that motivates your behaviour? What motivated you to enroll in NOUN for a postgraduate degree programme? There are many different reasons why people behave the way they. No doubt, motivation drives many behaviours and it is important to understand the importance of motivation in a classroom environment. This unit therefore provides the learners the opportunity to understand the concept of motivation, types of motivation and how it is influenced, major theories about motivation, and how to apply the theories of motivation to your day-to-day classroom teaching and learning activities

3.2 Learning Outcomes

By the end of this unit, you will be able to:

- define the concept of motivation
- distinguish between the two types of motivation
- discuss major theories that describe motivation in learning
- discuss classroom implications of motivational theories and some strategies that can be used to help motivate learners.

3.3 Motivation in Learning

3.3.1 What is Motivation?

Motivation can be defined as an inspiration that propels someone into an action. It is an internal state or condition that activates and gives direction to our thoughts, feelings, and actions (Lahey, 1995). In the opinion of Oladele (1998), motivation is a process by which the learner's internal energies are directed toward various goal objects in his/her environment. These energies or arousals push an individual in achieving his goals. It can also be defined as the eagerness and willingness to do something. It is the reason why an individual would want to do something. An individual may be highly motivated to perform well in a task and completely unmotivated in another. Motivation describes the wants or needs that direct behavior toward a goal (Lumen Learning, 2020). This means that when people are motivated, they will work tirelessly to achieve their aspirations. In a classroom situation, motivation drives learners in reaching learning goals.

Self-Assessment Exercises 1

What is motivation?

3.3.2 Types of Motivation

There are two types of motivation namely, intrinsic motivation (arising from internal factors) and extrinsic motivation (arising from external factors). Hence, motivation to engage in a given behavior can come from internal and/or external factors. The desire for food or water arises from within us (intrinsic), while the yearning to obtain recognition or approval is influenced by conditions in our environment (extrinsic). Let's look at the two types of motivations in more detail.

1. **Intrinsic Motivation:** Intrinsic motivation refers to motivation that arises from within the individual. We are motivated intrinsically when we do something because we experience internal compelling force to do it or because of the sense of personal satisfaction that it brings. It is an internal force or motive within the individual which propels him/her into emitting certain behaviour. Intrinsic motivation is something within the person that energises behavior e.g., interest, curiosity, personal challenge, and improvement. An example of an intrinsically motivated student is one who reads simply because he sees value in reading. It is the act of doing something without any obvious external rewards. You do it because it's enjoyable and interesting, rather than because of an outside incentive or pressure to do it. A student who is intrinsically motivated may

carry out a task because of the enjoyment he/she derives from such a task. In another way, a dog that sees a bone and runs for it did that because of the satisfaction it derives from eating bone. This type of behaviour does not require any prior learning. Sighting the bone charges the behaviour of the dog and propels it to act.

Here, you are motivated to perform a task for reasons such as interest, enjoyment, pleasure and satisfaction.

2. Extrinsic Motivation: Extrinsic motivation refers to motivation that arises from sources outside the individual. It is the incentive/reinforcer that drives an individual's behaviour towards a goal. Extrinsic motivation is something outside the person that energises behavior e.g., money, fame, power. A student that is extrinsically motivated will execute an action in order to obtain some reward or avoid some sanctions. For example, a student who reads hard for the examination did so because of the desire to obtain better grade. The case also goes for a runner who wants to win a prize, he/she will need constant practice than a person who wants to run for the fun of it. Extrinsic rewards should be used with caution because they have the potential for decreasing existing intrinsic motivation. For example, extrinsic incentive may spur a student to actively participate in the task for which the student has no interest, but may undermine intrinsic motivation in him/her (Deci et al, 1985). Therefore, students' motivation automatically has to do with the students' desire to participate in the learning process. It also concerns the reasons or goals that underlie their involvement or non-involvement in academic activities.

Here, y*ou are motivated to perform a task for reasons such as to gain a reward or avoid a punishment*

Think about why you are currently in NOUN. Are you here because you enjoy learning and want to pursue an education to make yourself a more well-rounded individual? If so, then you are intrinsically motivated. However, if you are here because you want to get a college degree to make yourself more marketable for a high-paying career or to satisfy the demands of your parents or spouse, then your motivation is more extrinsic in nature.

Extrinsic rewards should be used with caution because they have the potential for decreasing existing intrinsic motivation. For example, extrinsic incentive may spur a student to actively participate in the task for which the student has no interest, but may undermine intrinsic motivation in him/her. First and foremost, students' motivation automatically has to do with the students' desire to participate in the learning process.

Intrinsically motivated learning vs. Extrinsically motivated learning

Both extrinsic and intrinsic motivation have been shown to play a significant role in learning. However, research has shown that intrinsically motivated learning is more effective and leads to the most positive outcomes among students. Others have suggested that extrinsic motivators help students feel more competent in the classroom, which in turn enhances their intrinsic motivation (Oudeyer & Kaplan, 2007). However, finding ways to develop intrinsic motivation in students should be an important part of every teacher's instructional practices. The teacher can promote intrinsic motivation in students using the following strategies:

- By arousing a sense of curiosity in students and presenting their learning materials in a more meaningful way in order to facilitate students' active engagement and motivation.
- By creating a positive learning environment in the classroom and developing meaningful and respectful relationships with their students.
- Students are more likely to experience intrinsic motivation to learn when they feel a sense of belonging and respect in the classroom.

Self-Assessment Exercises 2

1)	With appropriate examples differentiate between intrinsic and extrinsic motivation
2)	What problems are associated with the use of extrinsic reward?
3)	How would you promote intrinsic motivation in students?

3.3.3 Theories of Motivation

Several theories on motivation have been developed by different psychologists to explain what drives humans to think and behave the way they do. Notable among them are Abraham Maslow, Henry Murray and Sigmund Freud. In this section, attempt will be made to discuss that of Maslow and Murray.

(a) Maslow's Theory of Motivation

Abraham Maslow was a foremost Psychologist who explained motivation through the satisfaction of needs arranged in a hierarchical order. The basis of his theory is that human beings are motivated by unsatisfied needs. Maslow argues that humans have seven levels of needs that can be arranged in a hierarchy from the lowest (physiological needs) to the highest (self-actualisation needs). According to Maslow, these needs

can create internal pressures that can motivate a person's behavior. He sees man as a wanting being who is motivated by the needs he wants to satisfy. He proposed that motivation is the result of a person's attempt at fulfilling these needs, and that need satisfaction is the most important sole factor underlying motivation. Maslow further explained that man is perpetually in needs and that the resources to satisfy those needs are limited. In view of this, humans place their wants on the scale of preference, and that they select the most pressing needs. After these needs have been satisfied, they become less important and no longer serve as motivators, paving way for the next on the hierarchy.

It is important to note that this 7-level hierarchy of needs constitute the expanded hierarchy from the original 5-level of needs.

The hierarchy of needs is often portrayed in the shape of a pyramid with the largest and lowest levels at the bottom (see Figure 3). These needs according to Maslow are:

1. Physiological Needs
2. Security and Safety Needs
3. Love and Belongingness Needs
4. Self-esteem Needs
5. Cognitive needs
6. Aesthetic Needs
7. Self-Actualisation Needs

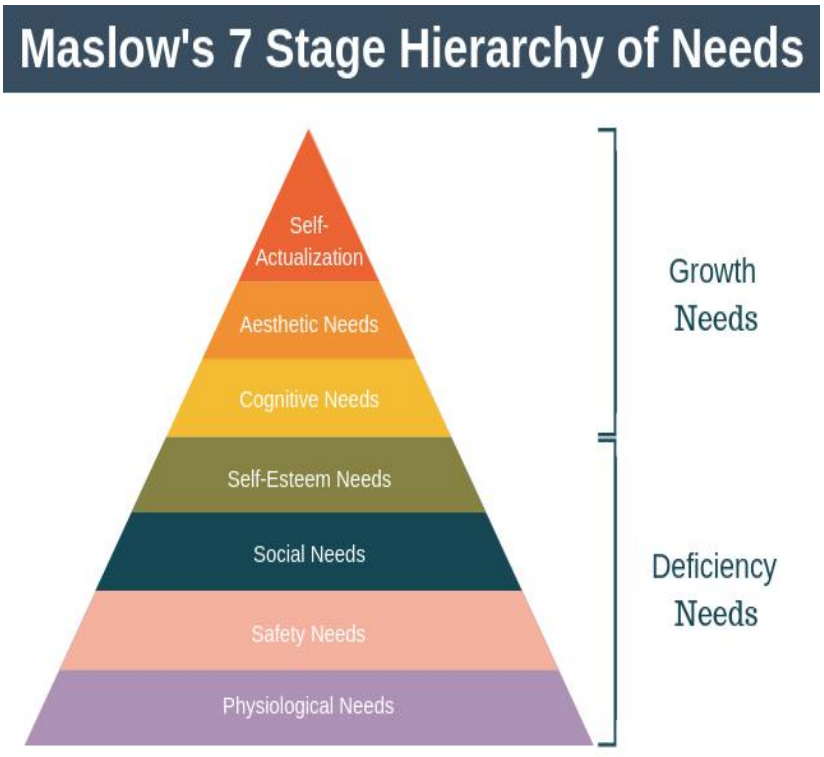

Figure 8: Maslow's 7-Stage Hierarchy of Needs
Source: expertprogrammanagement.com

Let us now explain in more detail the seven Maslow's hierarchy of needs:

1. **Physiological Needs:** These are the biological or survival needs of man. They are the most basic needs, that is, the needs for water, air, food, and sleep. Maslow considered physiological needs the most important of all the needs. Until these needs are fulfilled or satisfied, you will not be able to go to the next level. When you are very hungry, for example, all your behavior may be motivated by the need to find food. Once you eat, the search for food ceases, and the need for food no longer motivates you. They become less important and one moves to the next on the hierarchy which is the desire for security and safety.

Educational implication: The teacher must realise that effective learning is possible only when the physiological needs of pupils have been met; for example, a tired and hungry student will find it difficult to focus on learning. Teachers can aid students in the satisfaction of this need by helping them feel safe in the classroom and by not using coercion to control behaviour.

2. **Safety and Security Needs:** Once physiological needs are satisfied, people tend to become concerned about safety and security needs. It includes the need to have safe, secure and conducive life. At this stage the individual will be motivated to direct their behavior toward obtaining shelter and protection in order to satisfy this need. Today in Nigeria, both child and adult safety needs are often threatened by societal violence, communal violence, and armed robbery incidence.

Educational implication: Students need to feel emotionally and physically safe and accepted within the classroom to progress and reach their full potential.

3. **Love and Belongingness Needs (Social Needs):** This involves the aspiration of man to establish a cordial relationship with others. Once the safety needs have been met, social needs for love and belongingness become important. This can include the need to bond with other human beings, the need to love and be loved and to have a sense of belonging. At this level of need, people will like to extend their hands of fellowship or comradeship to their friends, mates, co-workers or neighbours. They equally will expect that such gestures be reciprocated by

others. If these needs are not met, the person will start feeling isolated, lonely and depressed.

Educational implication: A typical classroom consists of learners from different cultural, religious and socioeconomic backgrounds. Teachers can aid students in the satisfaction of this need by ensuring acceptance for all students in the classroom and by building a classroom environment where positive interactions are the norm and that no one experiences social rejection.

4. **Self-Esteem Needs**: These are the things we desire in order that our ego will be boosted. Once love and belonging needs have been satisfied, esteem needs become more important. Self-esteem needs refer to the desire to be respected by one's peers, to feel important, and to be appreciated. People will often look for ways to enjoy considerable influence from others and gain recognition, and they may seek validation and praise from others in order to fulfill these needs. The ability of someone to fulfill this need makes them feel superior and self-confident. Inability to fulfill these needs make a person feel dejected or inferior.

Educational implication: Students must be shown that they are valued and respected in the classroom and the teacher should create a supportive environment. Students with a low self-esteem will not progress academically at an optimum rate until their self-esteem is strengthened.

5. Cognitive Needs: The needs for knowledge and understanding, for curiosity, exploration. If you are driven by these needs, you may spend most of your time watching documentaries, reading books, researching into things and doing course works that is not required from school -just for the sake of having more knowledge.

6. Aesthetic Needs: The aesthetic needs are the needs in which one finally comes to a deep understanding of the world and the purpose of life and feel a part of the cosmos. These needs include the desire of people to pursue or admire beautiful things; e.g., the desire for beautiful and expensive cars, houses, materials, gorgeous and expensive dresses and beautiful surroundings.

7. Self-Actualisation Needs: This is the highest level of the hierarchy and refer to the realisation of a person's potential, the desire to accomplish everything that one can. If the previous needs are sufficiently met, a person now has the opportunity to become self-actualised. At this point the person is said to have reached the peak of his potentials. A person who reaches this

stage strives for growth and self-improvement. Maslow believed that a person's position on the hierarchy is likely to rise with age, but estimated that less than 1 percent of the population ever achieve self-actualisation.

In general terms, the physiological needs, safety needs, love/belonginess needs and self-esteem needs (i.e., Nos. 1-4) are referred to as Deficiency needs - needs that must be satisfied for survival. The needs at the very top i.e., cognitive needs, aesthetic needs and self-actualisation needs (Nos 5-7) are referred to as Growth needs - needs that enhance the person's psychological functioning (see Figure 3).

(b) Henry Murray's Theory of Motivation

Murray's theory like Maslow is organised in terms of needs. Murray defines a need as a drive that has the potential to prompt a behaviour from the person. For examples, the need for affiliation may drive a person to join social organisation. He divided his theory into two, viscerogenic and psychogenic needs

1. **Viscerogenic Needs:** These are referred to as biological or physiological needs. They are the primary needs and these include the need for water, sleep, food, air and excretion of waste products.

2. **Psychogenic Needs:** These needs correspond with other needs in Maslow's theory. They are secondary needs. Examples of these are the need for acquiring beautiful things or serene environment, the need for nurturing, the need for achievement. While these needs might not be fundamental for basic survival, they are essential for psychological well-being. Each person's unique levels of needs play a role in shaping their individual personality.

Self-Assessment Exercises 3

1) Briefly explain Maslow's theory of motivation.
2) Write short notes on the following:
i. Physiological Needs
ii. Viscerogenic Needs
iii. Safety Needs
iv. Aesthetic Needs

3.3.4 Classroom Implications of Theory of Motivation i.e. Strategies that can be used in the Classroom to Help Motivate Students

1. It is important for the teacher to know the basic needs of his/her students and cater for these according to level of their importance. For example, the teacher needs to think first of students' food, rest or health before thinking of teaching them. A tired and hungry student will find it difficult to focus on learning.

2. Students need to feel emotionally and physically safe and accepted within the classroom to progress and reach their full potential

3. When the teacher praises his/her students for doing well in their study or assignment, they will be spurred to sustain that effort. This would boost the self-confidence of the student.

4. A classroom which is well decorated or adorned with beautiful charts and learning materials will be student-friendly. The students' minds will always be attracted to the activities in a beautifully adorned classroom.

5. In the classroom, students must be shown that they are valued and respected, and the teacher should create a supportive environment. When their views are recognised or respected, this would boost their confidence. Students with a low self-esteem will not progress academically at an optimum rate until their self-esteem is strengthened.

6. From the beginning of the lesson, the teacher should endeavour to make his/her students know possible outcome of the lesson. It is when the students know what they are likely to achieve from the lesson that they want to be involved and feel belonged.

7. Feedback is necessary if the interest of the students must be sustained in the classroom. So, the teacher should always strive to let them know how they are performing in the teaching-learning activities as this will boost their self-esteem needs.

8. The teacher should also provide/plan for extra-curricular activities for his/her students. When the teacher does this, the students will have opportunity of establishing a genuine interaction among them. Besides, they will be able to showcase their hidden talents.

9. When dealing with the students in the classroom, the teacher should take into consideration, the developmental changes and

differences in the students before deciding on the particular motivation pattern to be employed.

10. The teacher should know how to motivate their students to learn. They should be versatile with various strategies that can enhance active participation of the students in the teaching-learning activities.

Self-Assessment Exercises 4

Discuss three strategies that can be used in the classroom to help motivate students to learn.

3.4 Summary

In this unit, you have learnt about motivation, types of motivation, theories of motivation, and how you can apply these theories to your day-to-day classroom teaching/learning activities. You now can see that motivation is a very important factor in the learning process. If our students are motivated, they learn better and retain more of what they learned. The fundamental aim of motivation is to stimulate and to facilitate learning activity. Learning is an active process that needs to be motivated and guided toward desirable ends; hence this unit has prepared the teachers for the various strategies they can employ to keep the students motivated to learn and participate meaningfully in classroom.

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3.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1

1. What is motivation?

Motivation can be defined as an inspiration that propels someone into an action. It is an internal state or condition that activates and gives direction to our thoughts, feelings, and actions. Motivation is a process by which the learner's internal energies are directed toward various goal objects in his/her environment. These energies or arousals push an individual in achieving his goals. It can also be defined as the eagerness and willingness to do something. It is the reason why an individual would want to do something.

Answers to SAEs 2

1. The distinction between Intrinsic Motivation and Extrinsic motivation:

Intrinsic Motivation

- Intrinsic Motivation is something within the person that energizes behavior i.e., intrinsic motivation comes from within.

- When you are intrinsically motivated, you engage in an activity because you enjoy it and get personal satisfaction from doing it.
- An example of intrinsic motivation is a student carrying out a task because of the enjoyment/pleasure/interest/satisfaction he or she derives from such a task.

Extrinsic motivation

- Extrinsic motivation is something outside the person that energizes behaviour i.e., extrinsic motivation refers to motivation that arises from sources outside the individual.
- When you are extrinsically motivated, you do something in order to gain an external reward e.g., money, fame, power/better grade or to avoid a punishment.
- An example of extrinsic motivation is a student reading hard for the examination because of the desire to obtain better grade, or a student who is studying hard so that their parents will not punish them for poor grades.

2. Problems associated with the use of extrinsic reward:

Extrinsic motivation may have the potential for decreasing existing intrinsic motivation. For example, extrinsic incentive may spur a student to actively participate in the task for which the student has no interest, but may undermine intrinsic and continuing motivation in the individual. Therefore, extrinsic motivation should be used with caution.

3. I can promote intrinsic motivation in students by arousing a sense of curiosity in students and presenting their learning materials in a more meaningful way in order to facilitate students' active engagement and motivation. Students are more likely to experience intrinsic motivation to learn when they feel a sense of belonging and respect in the classroom. By creating a positive learning environment in the classroom and developing meaningful and respectful relationships with their students.

Answers to SAEs 3

1) The basis of Maslow's theory is that human beings are motivated by unsatisfied needs. Maslow argues that humans have seven levels of needs that can be arranged in a hierarchy from the lowest (physiological needs) to the highest (self-actualisation needs). According to Maslow, these needs can create internal pressures that can motivate a person's behavior. He sees man as a wanting being who is motivated by the needs he wants to satisfy. He proposed that motivation is the result of a person's attempt at fulfilling these needs, and that need satisfaction is the most important sole factor underlying motivation. There are some needs that are basic to all human beings. As we satisfy these needs, they become less important and no longer serve as motivators, the next level on the hierarchy is what motivates us, and so on.

2) Short notes:

i. Physiological needs are the biological or survival needs of man. They are the most basic needs, such as the need for water, air, food, and sleep. Until these needs are fulfilled or satisfied, you will not be able to go to the next level of the hierarchy.

ii. Viscerogenic needs are basic needs that are based upon biological demands, such as the need for oxygen, food, and water.

iii. Safety needs are the needs for shelter, employment, health, and safe environment. Once this need is triggered, one will be motivated to direct their behavior toward obtaining shelter and protection in order to satisfy this need. Human beings require safety and protection from danger or external aggressors.

iv. Aesthetic needs are the needs that make people to pursue or admire beautiful things. For instance, the desire for beautiful and expensive cars, houses, materials, gorgeous and expensive dresses and beautiful surroundings.

Answers to SAEs 4

1. Three strategies that can be used to keep students motivated

Mention any three strategies out of those listed under sub-section 14.3.4

Seminar Topic

1. What is the relevance of motivation to students learning?
2. Sometimes, our motivations are often a mix of both intrinsic and extrinsic factors; is this true? Discuss.

UNIT 4 BEHAVIOUR MODIFICATION IN THE CLASSROOM

Unit Structure

4.1 Introduction

In the previous unit we discussed on Motivation in learning. In this unit, we are treating the topic of Behaviour Modification in the Classroom, which happens to be the last topic for this course. The goal of education is not only about making students acquire knowledge. It also involves managing student behaviour. As we all know, students tend to misbehave from time to time which makes it necessary for teachers to step in with disciplinary measures. In Nigeria, most teachers rely mostly on the use of corporal punishment in responding to student misbehavior, as mentioned in Module 2 Unit 7. Moreover, these teachers do not intend to harm their students when using corporal punishment; but instead, believe it is an effective discipline strategy. Research has shown that corporal punishment is generally more harmful than it is helpful. It is an ineffective means of discipline and has major harmful consequences on children and students. According to education experts, corporal punishment is an act of violence that harms children and students; hence experts agree that it should not be used in correcting a behaviour. In this lesson, we shall be looking at the alternative methods for modifying student behaviour in the classroom with explanations of how to use these techniques.

4.2 Learning Outcomes

By the end of this unit, you will be able to:

- define behaviour modification and its principles
- discuss the techniques of behaviour modification.

4.3 Behaviour Modification in the Classroom

4.3.1 What is Behaviour Modification?

Behavior modification is the process of changing a behaviour using the principles of operant conditioning. Skinner is known for his theory on operant conditioning. Behaviour modification is the application of Skinnerian principles of operant conditioning in an effort to change unwanted behaviour. Behaviour modification uses the principles of operant conditioning to accomplish behaviour change by replacing undesirable behaviours with appropriate behaviours.

It is important to note that some of the techniques of behaviour modification operate on the principles of positive reinforcement, negative reinforcement, and of negative punishment, as you will learn in this unit.

The basic premise of behaviour modification is that if the consequences of a behaviour are negative, the behaviour will not be repeated, and if the consequences are positive, the behaviour will be repeated. Through this process, an individual makes an association between a particular behaviour and a consequence. In other words, by providing certain kinds of consequences teachers can influence or modify their students' behaviour. Desired behaviours can be increased through reinforcement and undesired behaviours can be decreased through extinction. We are motivated to gain rewards and avoid punishments.

Behaviour modification is an effective way to address a variety of behaviour problems in students and can be helpful in correcting many classrooms undesirable behaviours, as well. A problem behaviour is behaviour that digresses from what the majority approves of, or a variation of a normal behaviour. Examples of such behaviours include noise making, truancy, cheating, failing to do assignments, inattentiveness, disobedience, missing classes, bullying, destructive tendency, aggressiveness, cheating, fighting, stealing and lying, amongst others. Teachers should realise that bad behaviour is usually a symptom of a problem. They should therefore avoid using corporal punishment, as they can increase problem behaviours.

Self-Assessment Exercises 1

What do you understand by the term behaviour modification?

4.3.2 Behaviour Modification Techniques

There are several techniques of behaviour modification that teachers can use to correct and discipline students. Some of these techniques include positive reinforcement, redirecting, talking and explaining, time-out, establishment of rules, grounding, withholding of privileges and ignoring (Bolris-Forget, 2008).

- Positive reinforcement
- Redirecting
- Talking and explaining
- Time-outs
- Establishment of rules
- Grounding
- Withholding of privileges
- Ignoring and approving

Let's discuss these techniques in more detail with explanations of how to use them and the age-appropriate use of these techniques.

1. Positive Reinforcement

Positive reinforcement refers to giving a student something pleasant that will reinforce their good behavior. Positive reinforcement includes a wide variety of methods such as praise, thumps up, nods of approval, smiles, hugs, handshakes, and social recognition.

Positive reinforcement can be:

- verbal for example saying "good" "well-done" "fantastic" to a child, commending students for completing their work.
- non-verbal for example smiling or nodding at students after a correct response; applauding students, giving students a thumps-up, or patting their shoulders.
- material rewards for example giving a child a book, pencil, crayon, money,

Both verbal and non-verbal reinforcers are the most powerful reinforcers, easier to give and least expensive. Material rewards should be used less often.

Let's discuss more about praise and how to deliver effective praise.

In the classroom, the teacher can reinforce a wide range of positive behaviours from students using praise. A simple word of praise given to a student who has done something good will go a long way to reinforcing that behaviour and the likelihood of that behaviour reoccurring in the future. When students behave well, they should be praised. Even if a student fails to achieve, he or she should be praised

and encouraged for their attempt and effort. Praise the process and progress, not just the outcome. Praise is one of the simplest and most powerful tools to engage and motivate your students. When used effectively, praise can turn around behaviour challenges and improve students' attitudes about learning (Morin, 2018).

Praise comments are of two types, general praise and specific praise.

1. General praise.

It is general and makes no reference to the specific behavior that is being praised. Examples include:

"Awesome"
"Good job"
"Excellent"
"Nice work"
"Very good"

This type of praise is not effective.

2. Specific praise:

It is specific for the positive behaviour displayed by the student. This type of praise lets students know what they have done right. Examples include:

"Thank you, John, for helping me to put away the note books".
"Emeka, you have done well for turning in your homework on time".
"Good job Janet, you worked really hard on that Mathematics problem",
"Wow, Musa you got all answers right",
"Thank you, Ola, for sitting quietly and doing your work".

Avoid using general praise; use specific praise. Teachers are encouraged to always use specific praise to let their students know exactly what they have done well for being praised. Specific praise is much more effective than general praise because it communicates teacher expectation to students while also promoting successful student behaviours (Brophy cited in Reinke, Herman & Stormont, 2013).

There are several important points that you should know about using praise:

- Provide praise immediately. The sooner a child is praised following appropriate behaviour, the more likely the child will

repeat the action. Conversely, the longer the teacher waits to reinforce a student, the less effective the reinforcer will be.

- The teacher is required to continually seek opportunities to deliver praise and to ensure that each child had a chance of being praised as often as possible. Look for positive things to say about a child's work even when pointing out problems or mistakes with the work. Psychologists recommend that you catch your students doing something good and reward them for it. The more you do this,

- The authenticity with which the praise is delivered is important. Be consistent and sincere with praise. Children will notice when teachers give insincere praise, and this insincerity will make praise less effective. Deliver praise with a warm tone of voice.

- Vary the praise comments you give. The comments used by teachers to praise appropriate behavior should vary; when students hear the same praise comments repeatedly over and over, it may lose its value.

Positive reinforcement is a technique that works well across age groups from infancy to adolescence, (infants (0-2 years), toddlers (2 - 3years), school age children (4 –12 years), adolescents (13-19 years).

2. Redirecting

This technique simply requires you to change or divert your child's attention from an inappropriate behaviour to an appropriate one. As soon as you notice a child is going to misbehave, try diverting their attention and lead them to engage in another activity. For example, if two children are going to fight over a toy, the teacher can do something to distract them. The teacher can also use 'talking and explaining' technique (No. 3 below) to guide them to exchange their toys and learn to share with each other. Redirecting is a technique that is most suitable for Infants (0-2 years), toddlers (2 - 3years) and school age children (4 –12 years).

3. Talking and Explaining

This technique involves telling a child what he or she is expected to do. Consistently and lovingly repeating appropriate approaches, actions, reactions and behaviors while also frequently explaining the reason behind them helps children establish logic and good judgment. Here, the teacher`s role is to talk things through with the student, guiding the student in reflecting on his or her behaviours and exploring the reasons behind it. For instance, a student has intentionally missed classes and the teacher guides him to see reasons on the importance of regular attendance. Talking and explaining is a technique that works well for

school age children (4-12 years) and adolescents (13-19 years).

4. Time Outs

This is a procedure in which a child is physically removed from a desirable environment and kept in a time-out location for a period of time during which reinforcement is unavailable. The child is placed in time-out so he/she is not receiving any positive attention. It operates on the principle of negative punishment. When a child misbehaves, he or she is removed from a desirable activity in an effort to decrease the unwanted behaviour. For example, a child might be playing on the playground with friends and pushes another child; the misbehaving child would then be removed from the activity for a short period of time. Ignore the child during time-out. Experts have indicated that verbal reprimands given by parents or teachers during time-outs are a major cause of reduced effectiveness of this form of discipline (Banks, 2002). The recommended "time-out" period should be one minute for each year of the child's age. Jenny is five; therefore, she sits in a time-out for five minutes. Give the child a hug or a kind word when time-out is over (Lumen Learning, 2020). Time-out works best with children age two to twelve, and it is particularly useful for the correction of temper tantrums, whining, yelling, fighting, and aggression. In classroom situation, time-out may be especially effective for children whose misbehaviour is primarily motivated by peer attention. This technique is suitable for toddlers (2 - 3years) and school age children (4 –12 years).

5. Establishment of rules

For children to have desirable behaviour, we should develop a set of rules in advance, impart them on your child and repeat them as necessary until he or she is able to adhere to and follow them without being reminded. The same goes for the classroom setting. All classrooms need rules to function effectively. Rules should be posted at the front of the class. It is a good idea if students have input in the formulation of the rules. That way, they will be encouraged to respect the rules. By establishing clear rules and procedures, and by applying consequences for student behaviour, we can say this technique operates on the principle of negative reinforcement.

The rules must be:

- reasonable and easy to follow
- stated clearly, in as few words as possible they should match with the children's age and development, and the children should be able to carry them out.
- stated in positive terms - Instructing children "not" to do certain things can only stop the undesirable behaviour without teaching them the acceptable behaviour. Therefore, when setting rules,

negative statements should be turned into positive ones. For example

Negative statement changed to positive statement

"Don't shout" ⟶ "Speak slowly"
"Don't run" ⟶ "Walk slowly"
"Don't snatch other's toys" ⟶ "Share toys with others"

6. Grounding

Especially impactful on primary school children and adolescents. This technique calls for restricting your child from participating in a certain event or social activity and maintaining that they must remain in a specific place (such as their room or the confines of your home) as punishment. During this time period, any reinforcement and other privileges are taken away, such as using the Internet, playing video games or watching television. This technique operates on the principles of negative reinforcement.

7. Withholding Privileges

It involves taking something pleasant away from a student to stop a behaviour. It requires the removal of a valued privilege, such as television viewing or visits with friends. This technique works best if it is used infrequently. This technique operates on the principle of negative punishment. Examples include taking away recess or removing the teacher's positive attention to decrease a behaviour. Withholding privileges is more appropriate for school age children (4-12 years) and adolescents (13-19 years).

8. Ignoring and Approving

It is a technique of ignoring students when they behave undesirably and approving/reinforcing their behaviour whenever they do something good. When students are praised for their good behaviour but ignored for their bad behavior, this may increase the frequency of good behavior and decrease bad behavior. We can also describe it as a technique of removing reinforcement by ignoring inappropriate behaviour and approving appropriate behaviours. The technique requires teachers to ignore inappropriate behaviours and to focus only on reinforcing appropriate behaviours. This technique operates on the principle of negative punishment. If a student is engaging in an unwanted behaviour because he or she is getting the reward of attention from the teacher, then removing this reward by ignoring the student should, eventually, stop the behaviour from occurring. When we try to end an undesired behaviour by removing any reward given for that behaviour, we say that

the behaviour has become extinct. Thus, this technique is called extinction. Consistently ignoring an unwanted behavior leads it to its extinction. When the teacher does not respond, the problem is forced back to its source - the student (Zhou & Brown 2017).

According to experts, three reinforcers maintain most classroom misbehaviours: teacher's attention, peer's attention, and release from boredom, frustration, or fatigue. In observing the child, try to determine which reinforcers are maintaining the target behaviour.

For example, imagine that Lucy enjoys getting attention from her teacher when she makes strange noises during lessons. The teacher can try to extinguish Lucia's behavior by ignoring her. By removing the attention, Lucy's behavior would eventually die out.

Consider this: a child disrupts the class, and the class responds by laughing. The response by the class serves as a reinforcement of the disruptive behavior and increases the likelihood that the child will disrupt the class again in the future. Now, if the child disrupts the class, but the teacher and the other students choose to simply ignore the behavior, the reinforcement of the unwanted behavior is eliminated. Without receiving any reinforcement of his behavior, the child will be less likely to continue to disrupt the class in the future.

A major warning about the ignoring technique is that the teacher's ignoring must be consistent. Again, do not ignore any behaviour that will put the child in danger. This technique is most suitable for school age children and adolescent.

As you can see from all the techniques described, positive reinforcement has been shown to be the most effective technique appropriate for children of all ages. It is a very powerful technique that can be used to increase desirable behaviours and decrease unwanted behaviours. How? When students are praised for their good behavior but ignored for their bad behavior, this may increase the frequency of good behavior and decrease bad behavior. Giving attention to students' desired behaviour through positive reinforcement can actually prevent them from misbehaving to seek attention. Remember, we are motivated to gain rewards (reinforcements) and avoid punishments. By so doing, you create conditions in the classroom that encourage positive behaviour in students - and the likelihood of the students' misbehaving decreases.

You may recall that we said the techniques of behaviour modification operate on the principles of positive reinforcement, negative reinforcement, and negative punishment all from Skinner's operant conditioning theory. From what we have discussed, we can summarise

the various techniques and the respective principles within which they operate as follows:

Positive reinforcement
- Positive reinforcement

Negative reinforcement
- Redirecting
- Establishment of rules

Negative punishment
- Time-outs
- Grounding
- Withholding
- Ignoring

Based on our discussion, we can also summarise the age-appropriate use of behaviour modification techniques as follows:

Infants (0-1½ years). These two techniques are suitable for infants
- Positive reinforcement
- Redirecting

Toddlers (2 - 3years) do well with the following techniques:
- Positive reinforcement
- Redirecting
- Time-outs

School age children (4 –12 years) respond positively to all eight techniques listed:
- Positive reinforcement
- Redirecting
- Talking and explaining
- Time-outs
- Establishment of rules
- Grounding
- Withholding of privileges
- Ignoring

Adolescents (13-19 years). Six techniques are considered effective for adolescents.
- Positive reinforcement
- Talking and explaining
- Establishment of rules
- Grounding

- Withholding of privileges
- Ignoring.

Important points to note when using behavior modification techniques in the classroom

There are several important points that you should know when using behaviour modification techniques.

Behaviour modification techniques should be age-appropriate, and should be tailored to the student that is being worked with. In addition, it is important to remember that some methods may not work for some children as each child has different characteristics. Every child is different and the strategies that work well for one child might not work with another. For example, sending a child who enjoys time alone to their room for behaviour modification may have little or no effect. If your child does not enjoy using electronics, taking away time to play a video game will not modify behaviour. If your behavior modification system does not produce the desired effect, it should be reviewed and revised immediately. Again, consistency is the key to making behaviour modification effective. When used consistently, behaviour modification techniques can change a student's behavior.

Self-Assessment Exercises 2

1. Mention two behaviour modification techniques that are suitable for a 10-year old primary school pupil.
2. As a teacher in a secondary school, you have observed that Mary enjoys getting attention from you when she makes strange noises during lessons. From your understanding of behaviour modification,

(a) What technique are you going to use to change Mary's behaviour?
(b) How would you use that technique to change Mary's behaviour? (Provide three points)

4.4 Summary

Imparting knowledge to students and managing their *behaviour* appropriately is key to successful *teaching* and learning. In this unit, you have learned about behaviour modification and the techniques of behaviour modification. You learned that behaviour modification uses the principles of operant conditioning to accomplish behaviour change by replacing undesirable behaviours with appropriate behaviours. You learned also that corporal punishment is never to be used to manage student

behaviour. There are many effective alternatives to corporal punishment. Teachers can use behaviour modification techniques in their classrooms to increase desirable student behaviors and decrease undesirable behaviours. Classroom management becomes easier when a teacher knows how to use behavior modification techniques effectively. Effective modification of behaviour is therefore important for all children, especially in a school context where compliance and orderly behaviour are critical in creating an effective learning environment for the achievement of teaching and learning goals.

4.5 References /Further Reading/Web Sources

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4.6 Possible Answers to Self-Assessment Exercises

Answers to SAEs 1

1. Definition of behaviour modification:

Behavior modification is the process of changing a behavior using the principles of operant conditioning. Most of the techniques used in behaviour modification operate on the principles of positive reinforcement, negative reinforcement, and negative punishment. Behavior modification is based on the idea that good behavior should lead to positive consequences, and bad behavior should lead to negative consequences. In behaviour modification, positive punishment (also called corporal punishment) should not be used in correcting a behaviour.

Answers to SAEs 2

1. Two behaviour modification techniques that are suitable for a 10-year-old primary school pupil:

Any two of the following techniques are correct: positive reinforcement, redirecting, verbal instruction, time-out, establishment of rules, grounding and withholding of privileges.

2. As a teacher in a secondary school, you have observed that Mary enjoys getting attention from you when she makes strange noises during lessons. From your understanding of behaviour modification,

(a) What technique are you going to use to change Mary's behaviour?

(b) How would you use that technique to change Mary's behaviour? (Provide three points)

When Mary makes strange noises during lessons,

(a) I will use **Ignoring and Approval** technique to change Mary's behaviour

(b) How I would use the technique to change Mary's behaviour

- I will simply ignore Mary whenever she makes strange noises, thereby removing the reinforcement of the unwanted behaviour.
- I will focus only on approving/reinforcing her behaviour whenever she does something good.

- Without receiving any reinforcement or attention during moments when she makes strange noises, Mary's behaviour would eventually die out /be extinguished.

Seminar Topics

Each student is expected to present seminar paper on one of the following topics:

1. Think of a student's behaviour that you would like to change. How could you use positive reinforcement technique to change that behaviour?
2. How would you use negative punishment to correct a six-year-old child who likes to disturb the class?