

Psychological Foundation of Education

GCE 101



**University of Ibadan Distance Learning Centre
Open and Distance Learning Course Series Development**

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Vice-Chancellor's Message

The Distance Learning Centre is building on a solid tradition of over two decades of service in the provision of External Studies Programme and now Distance Learning Education in Nigeria and beyond. The Distance Learning mode to which we are committed is providing access to many deserving Nigerians in having access to higher education especially those who by the nature of their engagement do not have the luxury of full time education. Recently, it is contributing in no small measure to providing places for teeming Nigerian youths who for one reason or the other could not get admission into the conventional universities.

These course materials have been written by writers specially trained in ODL course delivery. The writers have made great efforts to provide up to date information, knowledge and skills in the different disciplines and ensure that the materials are user-friendly.

In addition to provision of course materials in print and e-format, a lot of Information Technology input has also gone into the deployment of course materials. Most of them can be downloaded from the DLC website and are available in audio format which you can also download into your mobile phones, IPod, MP3 among other devices to allow you listen to the audio study sessions. Some of the study session materials have been scripted and are being broadcast on the university's Diamond Radio FM 101.1, while others have been delivered and captured in audio-visual format in a classroom environment for use by our students. Detailed information on availability and access is available on the website. We will continue in our efforts to provide and review course materials for our courses.

However, for you to take advantage of these formats, you will need to improve on your I.T. skills and develop requisite distance learning Culture. It is well known that, for efficient and effective provision of Distance learning education, availability of appropriate and relevant course materials is a *sine qua non*. So also, is the availability of multiple plat form for the convenience of our students. It is in fulfilment of this, that series of course materials are being written to enable our students study at their own pace and convenience.

It is our hope that you will put these course materials to the best use.



Prof. Abel Idowu Olayinka
Vice-Chancellor

Foreword

As part of its vision of providing education for “Liberty and Development” for Nigerians and the International Community, the University of Ibadan, Distance Learning Centre has recently embarked on a vigorous repositioning agenda which aimed at embracing a holistic and all encompassing approach to the delivery of its Open Distance Learning (ODL) programmes. Thus we are committed to global best practices in distance learning provision. Apart from providing an efficient administrative and academic support for our students, we are committed to providing educational resource materials for the use of our students. We are convinced that, without an up-to-date, learner-friendly and distance learning compliant course materials, there cannot be any basis to lay claim to being a provider of distance learning education. Indeed, availability of appropriate course materials in multiple formats is the hub of any distance learning provision worldwide.

In view of the above, we are vigorously pursuing as a matter of priority, the provision of credible, learner-friendly and interactive course materials for all our courses. We commissioned the authoring of, and review of course materials to teams of experts and their outputs were subjected to rigorous peer review to ensure standard. The approach not only emphasizes cognitive knowledge, but also skills and humane values which are at the core of education, even in an ICT age.

The development of the materials which is on-going also had input from experienced editors and illustrators who have ensured that they are accurate, current and learner-friendly. They are specially written with distance learners in mind. This is very important because, distance learning involves non-residential students who can often feel isolated from the community of learners.

It is important to note that, for a distance learner to excel there is the need to source and read relevant materials apart from this course material. Therefore, adequate supplementary reading materials as well as other information sources are suggested in the course materials.

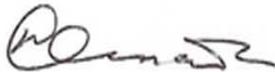
Apart from the responsibility for you to read this course material with others, you are also advised to seek assistance from your course facilitators especially academic advisors during your study even before the interactive session which is by design for revision. Your academic advisors will assist you using convenient technology including Google Hang Out, You Tube, Talk Fusion, etc. but you have to take advantage of these. It is also going to be of immense advantage if you complete assignments as at when due so as to have necessary feedbacks as a guide.

The implication of the above is that, a distance learner has a responsibility to develop requisite distance learning culture which includes diligent and disciplined self-study, seeking available administrative and academic support and acquisition of basic information technology skills. This is why you are encouraged to develop your computer skills by availing yourself the opportunity of training that the Centre's provide and put these into use.

In conclusion, it is envisaged that the course materials would also be useful for the regular students of tertiary institutions in Nigeria who are faced with a dearth of high quality textbooks. We are therefore, delighted to present these titles to both our distance learning students and the university's regular students. We are confident that the materials will be an invaluable resource to all.

We would like to thank all our authors, reviewers and production staff for the high quality of work.

Best wishes.

A handwritten signature in black ink, appearing to read 'Bayo Okunade', written in a cursive style.

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About this Course Manual

One of the many goals of education is to impart the right knowledge, attitudes and skills to learners, through the process of teaching and learning. Educators on training (learners in education) ought to be exposed to the fundamentals of teaching and learning. This basis will enable learners explore the possible challenges associated with the learning process and the possible solutions to the identified challenges.

As beginners to the field of Educational Psychology, you are expected to understand the rudiments of applying psychological principles to identifying and proffering solving some of the problems associated with the teaching and learning process. To this effect, this course unveils vital issues in education as it concerns the teacher, the learner, the teaching process, the curriculum, the school environment and so on, which is aimed at equipping these educational counsellors in training with the necessary skills in handling educational related problems.

Study Session 1: The Concept of Educational Psychology

Introduction

In this study session you will be introduced to the various aspects of educational psychology. Also, you will become familiar with educational terminology, language and practices relevant to the educational field.

Given this basis of introductory knowledge, you will learn about the various aspects of human psychology such as; Developmental Psychology, Educational Psychology, Counselling Psychology, Clinical Psychology, etc.

Learning Outcomes for Study Session 1

At the end of this study session, you should be able to

- 1.1 Explain the term Psychology
- 1.2 Highlight the different aspects of Psychology
- 1.3 Explain the term and scopes of Educational Psychology

1.1 Psychology

To have a better understanding of the concept of educational psychology, It's required that you have a clear description of what psychology is as well as the various branches of psychology. Let first examine what psychology is all about.

Humans are rational beings because they think, feel and act in ways that can be generally accepted as a way of life. They act uniquely as no two individuals behave exactly the same way and in most cases, these behaviours are governed by the intent of our thoughts.



Figure 1.1: Psychology affects human behaviour

For the purpose of this study, the definition that you need to pay attention to is as follows;

‘Psychology is the scientific study of human mind and behaviour which involves how we think, feel, act and interact individually and in groups’.

It is also the science that attempts to describe and explain human behaviour and in most cases with the aim of modifying undesirable behaviours. Psychology is considered a social and behavioural science because it deals with both human behaviour and the mental processes that govern behaviour.

1.2 Types of Psychology

Psychology is all encompassing because it studies the entirety of human beings and even animals. In this regard, many psychologists have taken interest in various aspects of psychology, making discoveries of the different area human problem and developing a repertoire of knowledge to proffer solutions to the problem. Different areas of psychology among others are;

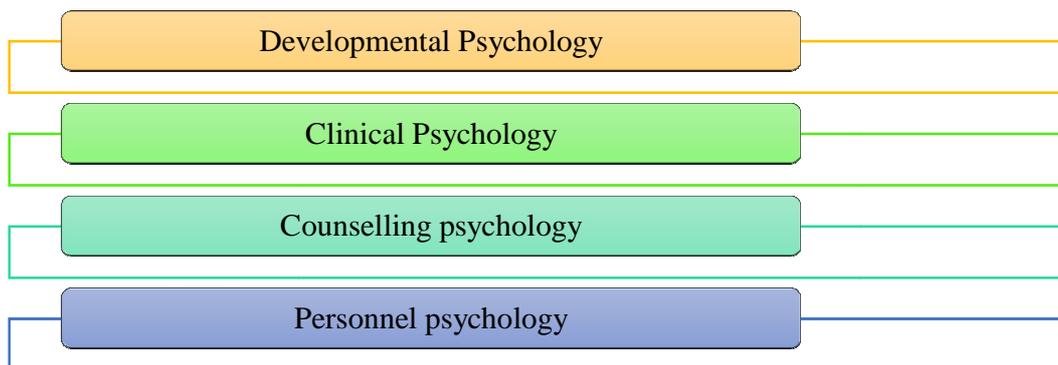


Figure 1.2: Some areas in Psychology

1.2.1 Developmental Psychology

Developmental psychology or the Psychology of development as it implies, is a scientific study that examines the process of change that occurs in human beings from the moment they are conceived in the womb to the point of death.

This psychology reveals the complex processes of human growth, which begins from the conception, in infancy, childhood, and adolescence, early and late adulthood and even till death. Psychologists in this field seek to know, understand and explain why and how people change throughout life.

They are curious about; how children are formed in the womb, how these children gradually become adults and how they eventually grow old and feeble as well as the behavioural changes that accompanies these physical changes. In seeking answers to their curiosity, they study the physical, emotional, social, perceptual, and the personality development of individuals.

In-Text Question

Psychology is a science, True or false?

- a. True
- b. False
- c. False or True
- d. All is correct

In-Text Answer

a) True

1.2.2 Clinical Psychology

Clinical psychology is that aspect of psychology that is concerned with the assessment and treatment of mental illness, abnormal behaviours and psychiatric related problems. Psychologists in this field of psychology have the understanding that some abnormal behaviour can not entirely be cured using behavioural approaches, but also with the help of some medical interventions.

Psychologists in this field do not limit themselves to the study of human behaviour alone, but explores the biological makeup of an individual that initiates the behaviour. Using their repertoire of knowledge, they can easily dictate an abnormal behaviour, dictate the possible neurotic cause and proffer solutions where possible.

Box 1.1: Psychology

Psychology is the scientific study of human mind and behaviour which involves how we think, feel, act and interact individually and in groups.

1.2.3 Counselling psychology

Counselling psychology is a psychological specialty that encompasses research and applied work in several broad domains: counselling process and outcome; supervision and training; career development and counselling; and prevention and health. Some counselling psychologists focus on other aspects as assets and strengths, person–environment interactions, educational and career development, brief interactions, and a focus on intact personalities.

1.2.4 Personnel psychology

Personnel psychology is the area of industrial or organizational psychology that deals with the recruitment, selection and evaluation of personnel, and other job aspects such as morale, job satisfaction, and relationships between managers and workers in the workplace.

It is the field of study that concentrates on the selection and evaluation of employees; this area of psychology deals with job analysis and defines and measures job performance, performance appraisal, employment testing, employment interviews, employee selection and employee training.

In-Text Question

As you have learnt thus far, following are some of the areas in the field of psychology EXCEPT?

- a. Field Psychology
- b. Developmental Psychology,
- c. Educational Psychology,
- d. Clinical Psychology

In-Text Answer

- a) Field Psychology

1.3 Educational Psychology

Educational psychology is the systematic application of psychological principles of teaching and learning. Educational psychology is aimed at helping the teacher to understand the development of his pupils, the range and limits of their capacities, the processes by which they learn and their social relationships.

Educational psychology is also referred to as a branch of applied psychology that is concerned with the application of the principles, techniques and other resource of psychology in giving solutions to the many problems confronting teachers in their attempt to impart knowledge, skills and positive attitudes to the learners. The core part of educational psychology is as follows:

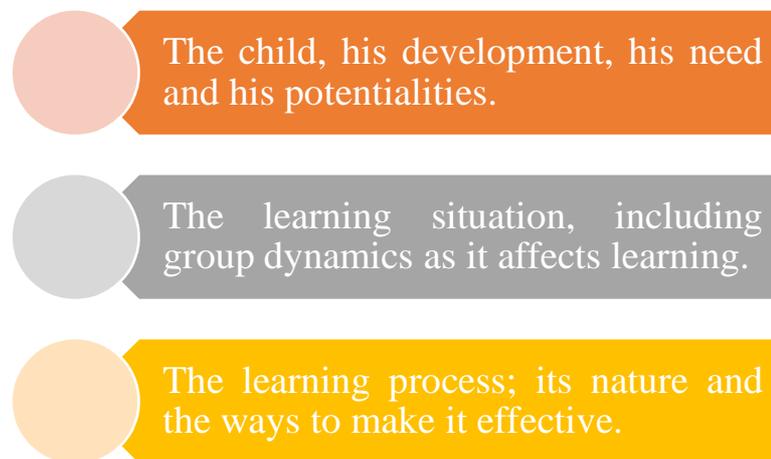


Figure 1.3: The core part of educational psychology

1.3.1 Scopes of Educational Psychology

The scope of educational psychology helps you to understand and to predict the behaviour of the learner in the process of teaching and learning. The behaviour of the learner is understood in the environment or the situation. The influence that the environment exercises on the learner and arouses him to activity is called the **Response**.

The scopes include the following:

1. The Learner
2. Learning Experiences
3. Learning Process
4. Learning Situation or Environment
5. The Teacher
6. Human Behaviour
7. Growth and Development
8. Individual Differences

1. **The Learner:** The learner is the major focus of educational psychology. It craves to know the learner as well as the techniques that can be adopted in knowing the learner. Their major interests are; the innate abilities and capacities of the individuals, individual differences and their measurements, the overt, covert, conscious as well as unconscious behaviour of the learner, the characteristics of his growth and development and each stage beginning from childhood to adulthood.

2. **Learning Experiences:** The learning experiences of individuals differ at every stage of development. In childhood, the learners experience is different from that of the adolescent and the adulthood. Educational psychology helps in deciding what learning experiences are desirable, at what stage of the growth and development of the learner, so that these experiences can be acquired with a greater ease and satisfaction.

3. **Learning Process:** The process of learning is scientific because it is governed by laws and principles. Educational psychology reveals the laws, principles and theories governing learning. Other items in the learning process are remembering and forgetting, perceiving, concept formation, thinking and reasoning, problem solving, transfer of learning, ways and means of effective learning etc.

4. **Learning Situation or Environment:** This is the environment where the process of teaching and learning takes place. Learning can be hampered or enhanced by the nature of its environment. Educational psychology in this regards to dealing with the environmental factors and learning situations which come midway between the learner and the teacher.

Topics like classroom climate and group dynamics, techniques and aids that facilitate learning and evaluation, techniques and practices, guidance and counselling etc. for the smooth functioning of the teaching-learning process.

5. **The Teacher:** The teacher is a significant personality in the process of teaching and learning. They are expected to impart knowledge, skills and positive attitudes to the learner. However, there are certain factors resident in the teacher that could either impede or promote teacher's effectiveness.

The interest of educational psychology is to examine; his conflicts, motivation. Anxiety, adjustment, level of aspiration etc. because it throws light on the essential personality traits, interests, aptitudes, the characteristics of effective teaching etc. so as to inspire him for becoming a successful teacher.

6. **Human Behaviour:** Psychology deals with the study of human behaviour, while education deals with the modification of undesirable behaviours. Educational psychology encompasses the study of human behaviour as well as behaviour modification.

7. **Growth and Development:** Educational psychology is interested in the process of growth and development that occurs at all stages of life, which is from childhood to adulthood.

8. **Individual Differences:** it is an established fact that no two individuals are exactly the same irrespective of how identical they are. Educational psychology reveals these differences and seeks ways to satisfy individual needs in the classroom.

Summary of Study Session 1

In this study session, you have learned that the:

1. You attempt was made to describe the concept of psychology as well as the various aspects of psychology.
2. Educational psychology was further elaborated upon, which was described as the application of psychological principles and theories to solving problems in the classroom.
3. The scopes of educational psychology were highlighted.

Self-Assessment Question (SAQs) for Study Session 1

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 1.1 (tests learning outcomes 1.1)

What is Psychology?

SAQ 1.2 (tests learning outcomes 1.2)

Mention the different aspects of Psychology.

SAQ 1.3 (tests learning outcomes 1.3)

What is Educational Psychology?

Identify the scopes of Educational Psychology.

Study Session 2: Fundamentals of Educational Psychology

Introduction

For an understanding of mental growth and development, educational psychology is a chief contributor. However, **educational psychology** together with **educational sociology** make up the basic foundation for understanding all human activities. The science and art of teaching is built upon these two basic sciences.

In this study session, you should pay attention to the objectives of educational psychology, the various principles guiding its operations as well as the various perspectives to educational psychology.

Learning Outcomes for Study Session 2

At the end of this study session, you should be able to

- 2.1 Highlight the objectives of educational psychology
- 2.2 Identify the principles of educational psychology
- 2.3 Explain the various perspectives in educational psychology

2.1 Objectives of Educational Psychology

These aims will further enlighten you on the benefit of educational psychology for the teachers, the learners and the classroom experiences. Educational psychology is aimed generally at the development of ‘wholesome personality’ and ‘continuous growth’ of individuals. It is also aimed at helping teachers provide facts and generalizations in his task of assisting the child to develop a harmonious personality. The objectives of Educational Psychology are as follows:

- 1) Educational psychology aims at developing right attitudes in the teacher about educational problems. Teachers are taught the right methods required to teach different disciplines and well as the right amount of learning a child can accommodate at every point in time. These strategies will help teachers manage educational problems in classrooms and beyond.
- 2) Educational Psychology aims at assisting the teachers organize the material which will be taught to the child.
- 3) Educational psychology aims at studying heredity growth and maturation, environmental influences, language, thinking, the development of language and the process of socialization in relation to their effect on the child as a learner. It assists the teacher to set up appropriate educational situations in order to bring about desirable change.
- 4) It aims at assisting the teacher in treating their pupils with sympathy and understanding. It also aims at creating a positive attitude towards learning.
- 5) It aims at helping the teacher to understand his own task. Teachers are faced with lots of educational problems in the process of teaching and learning, however, educational psychology develops in the teacher a scientific attitude to solve different problems of education faced by him.
- 6) Educational psychology aims at educating the teachers how best to help their pupils to learn more effectively both in and out of class.
- 7) Educational psychology is aimed at conducting research related to the educational sector.
- 8) Educational psychology aims at the application of research findings in the learning situation itself.

In-Text Question

Educational Psychology is ONLY aimed at helping teachers provide facts and generalizations in his task of assisting the child to develop a harmonious personality.
True or False

- a) True
- b) False
- c) Both are correct
- d) I don't know

In-Text Answer

- b) False

2.2 Principles of Educational Psychology

There are some behaviours and principles of educational psychology that governs an effective learning time. These principles include;

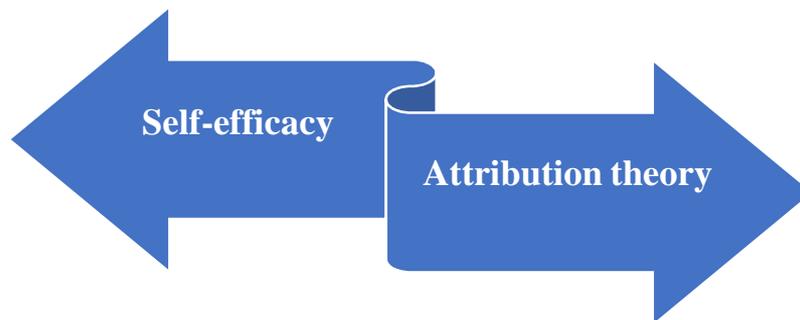


Figure 2.1: Principles of Educational Psychology

Self-efficacy: by instilling feelings of high self-efficacy, teachers can help learners' master difficult concepts and skills. When learners perceive that they will be successful in and given task, they put in much effort and are persistent in achieving such a task.

Attribution Theory: By encouraging learners to attribute both success and failure to effort rather than ability or task difficulty, teachers can help them master difficult concepts and skills. Peer tutoring increases effective performance of both the tutor and the tutee. Tutoring involves a one-on-one interaction between the tutee and the tutor, thereby ensuring prompt feedback and close monitoring of the tutee's performance.

Cooperative learning increases learning because it gives learners the opportunity to maximize the strength of their peers in improving on their weaknesses.

Negative stereotyping and negative teacher expectancies reduce learning. Conversely, positive stereotyping and expectancies enhance learning.

In-Text Question

_____ increases effective performance of both the tutor and the tutee.

- a) Individual tutoring
- b) Self tutoring
- c) Participant tutoring
- d) Peer tutoring

In-Text Answer

- d) Peer tutoring

2.3 Perspectives in Educational Psychology

The major fundamental assumptions of formal education is that learners retain the knowledge and skills they acquire in school and can apply these skills in situations outside the classrooms in solving problems. However, many educational psychologists have different perspectives to how learners learn skills and apply them in real life situations. These perspectives are;

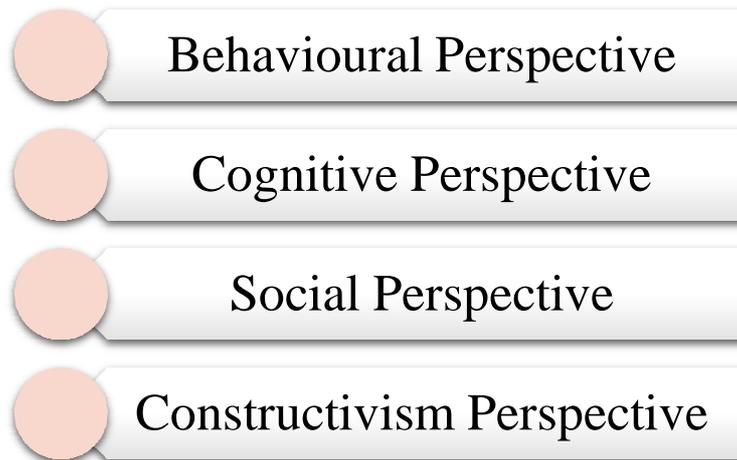


Figure 2.2: Perspectives in Educational Psychology

2.3.1 Behavioural Perspective

Analysts in behavioural science adopt behavioural principles of operant conditioning to enhance learning in the classroom.

For instance, these theorists believe that teachers can change an undesirable behaviour or improve on a desirable behaviour through rewards like praises, prizes or gifts. Learners are motivated to learn skills and positive attitudes when they are rewarded while they are less motivated to work harder when not motivated.

In-Text Question

Behavioural theorists believe that teachers can change an undesirable behaviour or improve on a desirable behaviour through

- a) Rewards
- b) Cognitive
- c) Development

d) Teaching

In-Text Answer

a) Rewards

2.3.2 Cognitive Perspective

Many educational psychologists are concerned with mental constructs as traits, beliefs, memories, motivation and emotions. Cognitive theorists believe that memory structures determines how information is perceived, processed, stored, retrieved and forgotten.

These theorists take cognizance of individual differences that makes every individual, distinct and unique in intelligence, creativity, cognitive style, motivation and in their capacity to process information, communicate, and relate it with others. E.g, problem solving, memory, and language.

In-Text Question

All of the principles of educational psychology govern an effective learning time EXCEPT_____?

- a) Self-efficacy
- b) Attribution Theory
- c) Cooperative learning
- d) Educational Psychology

In-Text Answer

d) Educational Psychology

2.3.3 Social cognitive perspective

Social cognitive theory (SCT), used in psychology, education, and communication, holds that portions of an individual's knowledge acquisition can be directly related to observing others within the context of social interactions, experiences, and outside media influences. Media provides models for a vast array of people in many different environmental settings. The social cognitive theory is based on the social learning theory of **Albert Bandura**.



Figure 2.3: Albert Bandura

Source

The theory states that when people observe a model performing a behaviour and the consequences of that behaviour, they remember the sequence of events and use this information to guide subsequent behaviours. Observing a model can also prompt the viewer to engage in behaviour they already learned.

In other words, you do not learn new behaviours solely by trying them and either succeeding or failing, but rather, your survival is dependent upon the replication of the actions of others. Depending on whether you are rewarded or punished for their behaviour and the outcome of the behaviour, the observer may choose to replicate the behaviour modelled.

Box 2.1: Note

His theory is a fusion of behavioural, cognitive and social elements. Bandura emphasized the process of observational learning in which a learner's behaviour changes as a result of observing others' behaviour and its consequences.

The theory identified several factors that determine whether observing a model will affect behavioural or cognitive change. These factors include the learner's developmental status, the perceived prestige and competence of the model, the consequences received by the

model, the relevance of the model's behaviours and consequences to the learner's goals, and the learner's self-efficacy.

2.3.4 Constructivist Perspective

The Constructivist refers to a category of learning theories that place emphases on the prior knowledge of the learner and often on the social and cultural determinant of the learning process.

Educational psychologists' attempts to show a demarcation between individual or psychological constructivism identified with Piaget's theory of cognitive development, form social constructivism identified with the Lev Vygotsky's work on socio-cultural learning, which describes how interactions with adults, more capable peers and cognitive tools are internalized to form mental constructs.

Summary of Study Session 2

In this study session, you have learned that:

1. This study session has revealed the objectives of educational psychology, of which one of it is to help the teacher gain a right attitude towards the educational problems they encounter in the teaching and learning process.
2. This session has further exposed us to the principles guiding educational psychology as well as the various aspects to educational psychology.
3. Educational psychology aims at developing right attitudes in the teacher about educational problems. Teachers are taught the right methods required to teach different disciplines and well as the right amount of learning a child can accommodate at every point in time. These strategies will help teachers manage educational problems in classrooms and beyond.
4. Cognitive theorist believe that memory structures determines how information is perceived, processed, stored, retrieved and forgotten.
5. Constructivist refers to a category of learning theories that places emphases on the prior knowledge of the learner and often on the social and cultural determinant of the learning process.

Self-Assessment Question (SAQs) for Study Session 2

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 2.1 (tests learning outcomes 2.1)

What are the objectives of educational psychology?

SAQ 2.2 (tests learning outcomes 2.2)

List the principles of educational psychology

Describe the various perspectives to educational psychology

Study Session 3: The Process of Teaching and Learning Educational Psychology

Introduction

In the previous study, you learnt that educational psychologists are interested in helping teachers identify learners with special needs with the aim of helping them learn effectively at their pace. However, teachers must be better educated on the teaching and learning process before adequate measures can be taken in addressing some educational problems.

In this study session you will examine educational psychology in teaching and learning, the methods used in educational research and the various techniques they use in collecting data for their research.

Learning Outcomes for Study Session 3

At the end of this study session, you should be able to

- 3.1 Identify the various categories that describe the art of teaching
- 3.2 Describe the various methods in educational research
- 3.3 Highlight the techniques used in data collection

3.1 Art of Teaching

The art of teaching can be considered as a process, because it involves an active participation by the teacher and the learners; it is also regarded as an interpersonal activity because there is an interaction between the teacher and the learners and vice versa; and teaching is said to be intentional because it is done on purpose.

Therefore, teaching is said to be an interpersonal, interactive activity, typically involving verbal communication, which is undertaken for the purpose of helping or more learners learn or change the ways in which they can or will behave.

There are several categories that describe the art of teaching;

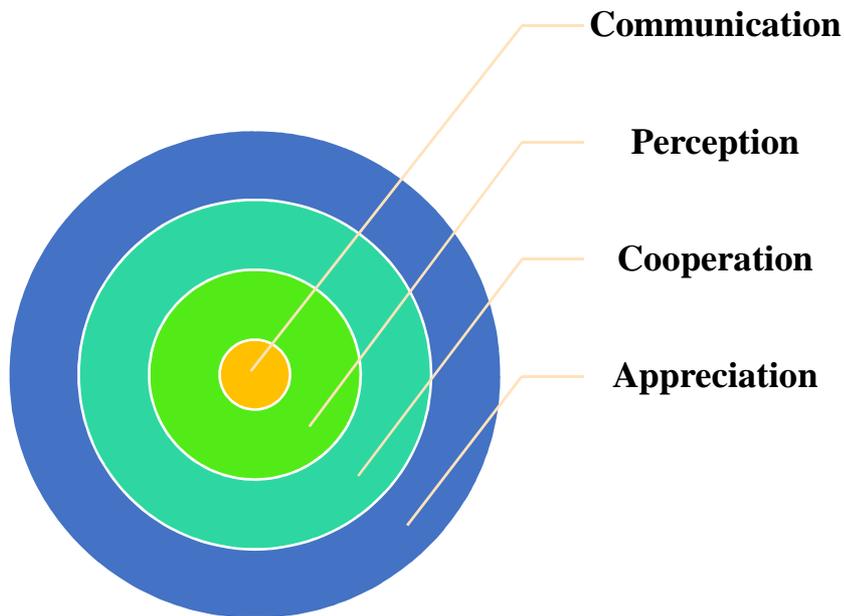


Figure 3.1: Categorise of Art of learning

1. **Communication:** this goes beyond speaking or writing but it includes body languages, spacing i.e. stepping towards the learners and back to the front of the class to ensure they are attentive, voice intonation, eye languages etc.
2. **Perception:** this involves sensitivity to learners and their willingness to adapt. Teachers read cues that describe the emotional context of the class and then adapt their methods to the 'mood' of the class.
3. **Cooperation:** teaching and learning process goes smoothly when teachers and learners go along well.
4. **Appreciation:** both teachers and learners love to be appreciated after a job well done. Teachers will like to be commended after he has successfully imparted knowledge and skills to the learners and learners' desire appreciation when they successfully complete every task given to them by their teachers.

In-Text Question

The following categories describe the art of teaching EXCEPT.

- a) Communication
- b) Perception
- c) Appreciation
- d) Punishment

In-Text Answer

d) punishment

3.2 Major Research Methods in Educational Psychology

Teachers are often concerned about the effectiveness of their teaching methods in the teaching and learning process. Learners have different and peculiar needs in the classroom and it takes teachers who know the right teaching method to adopt to meet those needs.

Many educational researchers conduct research to proffer solutions to the many problems associated with the teaching and learning process as; effective method of teaching, interpersonal relationship related problems, administrative related problems etc.

There are several research methods, researchers adopt in carrying out researches in educational psychology, some of these are;

- Historical,
- Descriptive,
- Correctional,
- Comparative
- Experimental research.

3.2.1 Historical Research

This research involves studying, understanding, and explaining past events. The purpose of this type of research is to formulate conclusions about the causes, effects, or trends of past events that help to either explain current events or predict future occurrences. Researchers in this context make use of available data from the archives not necessarily administering any test or observing any occurring behaviour.

3.2.2 Descriptive Research

In a qualitative or descriptive research, the investigator examines and reports things the way they are in an attempt to understand and explain them. In this context of research, the investigator does not manipulate the subject of his study; rather he observes and records the subject in its natural state. The researcher collects data to test hypotheses and answer research questions concerning the status of any issues or problems.

3.2.3 Correlational Research

In this type of research, the researcher attempts to determine if a relationship exists between two or more variables. For example, a researcher may be interested in finding the relationship between anxiety and poor academic achievement, this is does not necessarily mean that anxiety is the 'cause' of poor academic achievement.

A high correlation indicates that learners with high level of anxiety are prone to perform poorly in their examination. Thus, the finding that two variables are highly related does not mean that one variable may have caused the other; rather, a third variable may have a greater influence on both variables.

3.2.4 Comparative Research

In a comparative research, the researcher searches for causal relations among variables that are compared with each other. This nature of study involves a comparison of groups that are different before the study begins. For example, a researcher may be interested in examining the effect of socioeconomic status on corruption. He will first divide them into the various groups' i.e. people of the lower class, the middle class and the high class, before carrying out a comparison.

In-Text Question

Research methods, researchers adopt in carrying out researches in educational psychology as mentioned in this study session include Historical, Descriptive, Correctional, _____ and _____ research.

- a) Percetion and Correction
- b) Communication and Cooperation
- c) Comparative and Experimental
- d) Social and Group

In-Text Answer

c) Comparative and Experimental

3.2.5 Experimental Research

This involves an active manipulation of an independent variable on the dependent variable. This type of study seeks to examine the 'cause' and 'effect' of variables under study.

The independent variable is usually referred to as the experimental, or treatment variable which will initiate a 'cause' to bring about an 'effect' on the dependent variable. In the context, the independent variables are manipulated so as to effect a change in the dependent variable.

3.3 Techniques used by Researchers

The researchers make use of different approaches to collect data for their research. Some of these techniques include;

- Survey,
- Interviews,
- Observation.

3.3.1 Surveys

In survey research, the investigator formulates questions about a particular issue, he is investigating an individual or a group of people under study. Before carrying out a research, the researcher has some questions in mind he seeks answers.

These questions can be properly constructed in the form of a questionnaire or in an interview to get the required answer to his questions. Survey research is used to study teacher, learners and several other individuals, particularly to understand their attitudes, beliefs, opinions, and behaviour. Surveys can be administered using questionnaires, interviews, telephone and mails.

One major advantage of a survey is that a great deal of information can be obtained from a large population and it provides a good representation of sources of information. However, there are disadvantages.

- First, survey methods may not allow very detailed information on the issue being researched, because survey questions are so general.
- Secondly, survey research can be expensive and time consuming.
- Thirdly, respondents can fake the response and give wrong answers to the questions.

3.3.2 Interviews

The interview procedure involves a face-to-face conversation in which an interviewer will ask other individual questions designed to obtain answers relevant to the research problem. In research, interviews are typically categorized as either structured (standardized) or unstructured (unstandardized). A good example is a job interview.



Figure 3.1: Face-to-face Interview

Source

In a standardized interview, the interviewer asks questions in which the sequence and wording are fixed. The researcher has limited freedom in the manner of questions he is to ask his respondents. On the other hand, unstandardized interview is more flexible because the researcher is not restricted in the manner of questions he can ask his respondents.

In-Text Question

Which of the following is a technique used by researchers for data collection?

- a. Surveys
- b. Interviews
- c. Observation
- d. None of the above

In-Text Answer

- d) None of the above

The flexibility of the questions asked is an advantage, especially for children as the wordings can be rephrased to their level of understanding. On the other hand interviewees responses can be faked and can be misinterpreted by the interviewer. It is also time consuming.

3.3.3 Observation

Observation method is the most common way we obtain information. Systematic observation also has evolved as a basic scientific tool for gathering data in research on teaching. The observation method requires a careful observation of phenomenon as they naturally occur and taking a careful record of all occurrences.

For example, you may be carrying out a study on a child with special needs, with the aim of understanding how they relate with other people. This type of research will require the researcher to keep a close watch on the child on a daily basis to carefully observe all his activities.

It is time consuming and energy sapping. However, information gotten through this medium is authentic.

Summary of Study Session 3

In this study session, you have learned the following:

- 1) Educational psychology in the teaching and learning process, elaborated the several categories that describe the art of teaching and learning.
- 2) In solving educational problems, many educational psychologists carry out lots of research using various methods.
- 3) This study session revealed some of these methods and the techniques they use in collecting data.

Self-Assessment Question (SAQs) for Study Session 3

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 3.1 (Tests Learning Outcome 3.1)

What are the various method used in educational researches

Describe the techniques used in data collection

SAQ 3.2(Tests Learning Outcome 3.2)

What do you understand by experimental research

SAQ 3.3(Tests Learning Outcome 3.3)

Write short note on Survey and interviews

Study Session 4: The concepts of learning

Introduction

The concept of learning is a continuous process which involves your brain and body, and also a strategy which requires you to compare and contrast groups or categories that contain concept-relevant features with groups or categories that do not contain concept-relevant features.

The concept of learning brings about the search for and list of attributes that can be used to distinguish ideals from non ideals of various categories. In this study session you will learn how to describe learning and also the factors that affect learning.

Learning Outcomes for Study Session 4

At the end of this study session, you should be able to

4.1 Describe learning

4.2 Identify the factors that affect learning

4.3 Define transfer of learning

4.1 Learning

Learning is all encompassing because it affects the personality, social behaviour, and development of individuals. Learning can be effortless when it is done through experience. This informs the popular saying that 'experience is the best teacher.

'Learning is a relatively continuous process in human beings. Human behaviours can be learned, unlearned and modify'.

In other words, learning is seen as a process by which people acquire new knowledge. However, psychologists define learning as a relatively permanent change in the behaviour of an organism that occurs as a result of experiences in the environment. This definition of learning has three important parts;

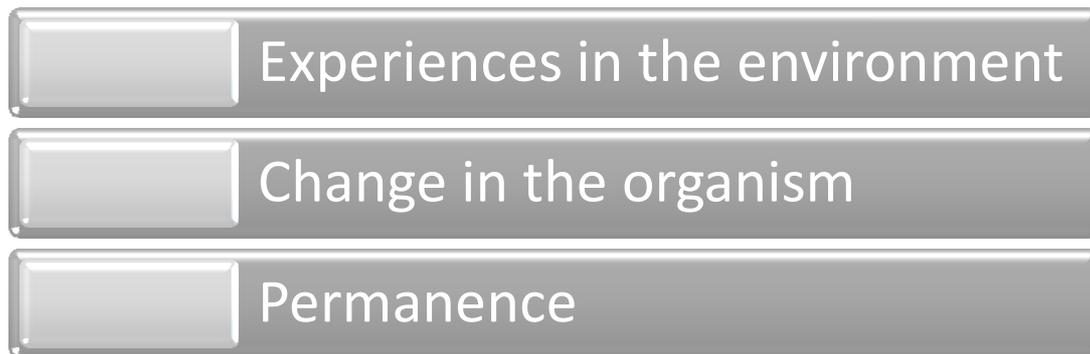


Figure 4.1: Components of the definition of Learning

This implies that for learning to take place, these vital elements must be involved. Behaviours are learned either desirable or undesirable, learning in this context is by behaviour modification, where you can unlearn undesirable behaviour, then replace with desirable behaviours. Unlearning undesirable behaviour implies that then you restructures your pattern of thinking to dislike the undesired action and accept the desired behaviour.

In-Text Question

Learning is defined as the process by which a relatively lasting change in potential behaviour occurs as a result of practice or _____?.

- a) Decision
- b) Experience
- c) Learning
- d) Behaviour

In-Text Answer

b) Experience

4.2 Factors that influences Learning

The factors that influence learning are as follows:

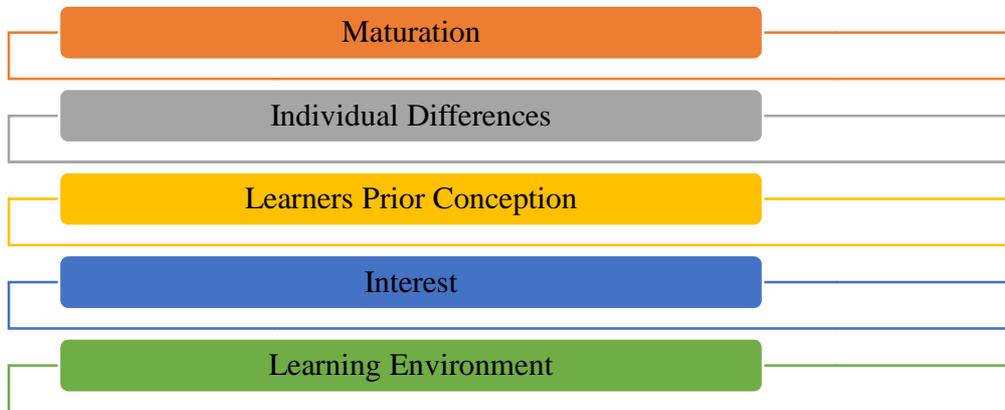


Figure 4.2: Factors that influence learning

1. Maturation: Maturation refers to mental maturity, social maturity and psychological readiness. Learning takes place at different levels of development and learners must be ready mentally, physically, socially, emotionally and psychologically for learning to effectively take place.

Maturation involves the development of the nervous system which comprises of the brain and the spinal cord. And the rate of growth and development varies in individuals; this implies that the mental readiness of children differs irrespective of their ages.

For instance, a five year old child who is slow in his growth and development may not be mature enough to compete with his colleagues of his age who are matured to learn.

2. Individual Differences: Teachers must take into consideration the differences that exist among his learners in terms of their gender, ability, social and emotional competencies. Mental receptivity differs in male and female, just as females are said to be more expressive than the males while the males seem to be more calculative than the females. This implies that teachers should learn to project the strength of his learners as this will motivate them to learn.

3. Learner's Prior Conception: Prior conception refers to the ideas about the physical, natural, and social worlds that learners have before they begin new instructions on these topics. Learners are not empty heads; they have some ideas about the topic they are taught in class. When learners prior conception about the topic are conflicting, learning new ideas become difficult, but when they are congruent, it makes it easier to learn new ideas.

For instance, in a geography class, learners are taught that the world is cyclical i.e. it revolves round the sun in a circle. Some of these learners have a prior belief that the world is plain because they imagine that if it is cyclical, as it revolves men may have to walk on their heads. In this scenario, the prior knowledge or conception of the learner conflicts with the new concept taught in class, thereby making learning very difficult.

4. Interest: Interest in the subject matter and the teacher is a major factor that could affect learning. Interest means the inner disposition of the learner towards a subject matter. If learners have the right disposition towards the subject matter or the teacher, they are motivated to learn and vice versa. For instance, if a learner is not interested in mathematics, he will find it difficult paying attention in class or if he finds any of his teachers unfriendly, he will come to dislike the subject that teacher is teaching, so will not be motivated to learn.

5. Learning Environment: The environment of learning must be conducive and effective for learning to take place. Effective learning environment is designed to promote;

- i **Engagement:** this is where learners are actively immersed in learning tasks and are absorbed in mastery the concept and strategies needed to succeed at these tasks.
- ii **Understanding:** effective learning environment is designed with the aim of helping learners understand important ideas rather than having learners simply memorize these ideas or memorize a list of facts.
- iii **Self-regulated Learning:** this is aimed at helping learners learn how to learn on their own without a constant need for a teacher. Self-regulated learners set their own learning goals and select their own learning strategies that will help them achieve their goals.
- iv **Transfer:** this refers to helping learners practically apply what they have learned in the classroom in real life situation.
- v **Collaboration:** helping learners work together. When learners work together, they complement their strength and improve on their weakness.

In-Text Question

The development of the nervous system which comprises of the brain and the spinal cord in the factor of Learning is called_____?

- a) Learning environment

- b) Interest
- c) Individual difference
- d) Maturation

In-Text Answer

d) Maturation

4.3 Transfer of learning

Transfer of learning started from the primary education to secondary and is the practical application of acquired knowledge in real life situation. People learn through observation, role modelling and experience, but the ability of these individuals to put what they have learned into practice, indicates a transfer of learning.

In the classroom, teachers impart knowledge and skills in theoretical form for the learner, but the applicability of the theories learned to solving problems in real life circumstances is what is referred to as transfer of learning. Transfer of learning is seen in how a previously learned task facilitates the learning of subsequent tasks, or how what is learned in one subject facilitates learning in other subjects. By implication, you should learn from your previous experiences.

For instance, the knowledge of your five senses should facilitate your understanding of the human nervous system or learners' previous knowledge of further mathematics should aid their understanding of their engineering courses or their previous knowledge of biology should aid their understanding of medical sciences etc.

In-Text Question

_____ is the ability of individuals to put what they have learned into practice?

- a) Transfer of learning
- b) Understanding
- c) Engagement
- d) Self-regulated learning

In-Text Answer

a) Transfer of Learning

4.3.1 Types of Transfer of Learning

The following are the various types of Transfer of Learning:

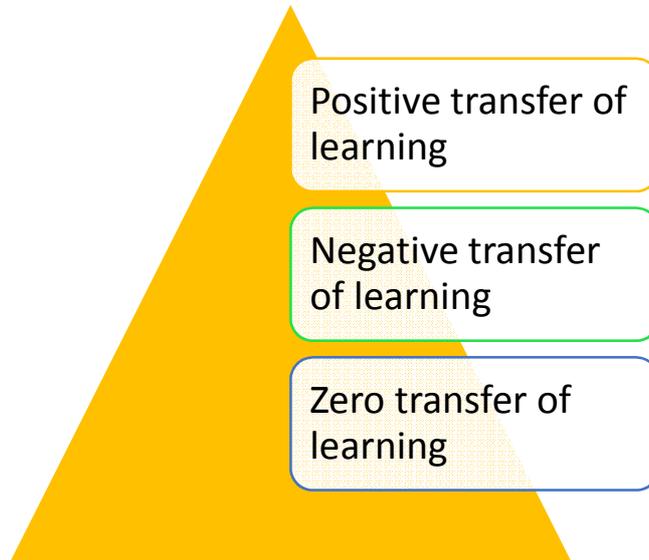


Figure 4.3: Types of Transfer of Learning

1. Positive Transfer of Learning

Positive transfer of learning occurs when a previously acquired knowledge facilitates the understanding of other constructs. It is simply said to be the applicability of prior knowledge or skills a situation in solving problems in a new and different situation.

It is the right application of previous knowledge in real life situation. Ashaye (2000) stipulated that positive transfer of learning occurs when there is an improvement in the performance of an individual as a result of what was either learnt or when there is a progress in the learning of a new thing due to old learning. For instance, consider a situation where an individual's proficiency in oral English facilitates his performance in news broadcasting.

2. Negative Transfer of Learning

A negative transfer of knowledge occurs when a previously learned task hinders or distorts the learning of a new task or a situation where a previously learned skill affects negatively the acquisition of a new skill.

For instance, mother tongue interference, this is a situation where a person's dialect affects the right pronunciation of words or letters. Or a situation where a child's ability to write with his left hand makes it difficult to use his right hand to eat or exchange handshakes.

3. Zero Transfer of Learning

This is implied when one's previous knowledge or skill, neither facilitate nor hinders the acquisition of a new skill. Or a situation where by what a person has learned previously has no influence on what he is learning at present. For example, a learner of Theatre Arts having no proficiency in acting, this implies that what he had learned in school has no impact on his profession as an actor.

Summary of Study Session 4

In this study session, you have learned that:

1. It highlighted the possible factors that could affect learning. Transfer of learning, which is the application of previous knowledge in a new situation, was discussed as well as the various types.
2. Learning is a relatively continuous process in human beings. Human behaviours can be learned, unlearned and modify.
3. Learning is all encompassing because it affects the personality, social behaviour, and development of individuals. Learning can be effortless when it is done through experience. This informs the popular saying that 'experience is the best teacher'.
4. Transfer of learning is the practical application of acquired knowledge in real life situation. People learn through observation, role modelling and experience, but the ability of these individuals to put what they have learned into practice, indicates a transfer of learning.

Self-Assessment Question (SAQs) for Study Session 4

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support

Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 4.1 (Tests Learning Outcomes)

What is learning?

SAQ 4.2(Tests Learning Outcomes)

What are the factors that affect learning?

SAQ 4.3 (Tests Learning Outcomes)

Define transfer of learning

List the types of transfer of learning

Study Session 5: Theories of Learning

Introduction

Learning theories are abstract frameworks describing how information is absorbed, processed, and retained during learning. Cognitive, emotional, and environmental influences, as well as past experience, all play a part in how you comprehend (your understanding of things), or a world view is acquired or changed, and knowledge and skills retained. In this study, you will learn about some of these learning theories.

Learning outcome for Study Session 5

At the end of this study session, you should be able to

- 5.1 Explain the classical conditioning theory – Ivan Pavlov
- 5.3 Theory of Connectionism – Edward Thorndike
- 5.4 Discuss the social Cognitive learning – Albert Bandura.

5.1 Classical Conditioning theory – Ivan Pavlov (1849-1936)

The theory is generally regarded as a hunch that has no factual basis. Learning theory on the other hand is referred to as a set of interrelated principle that presents a systematic view of learning based on empirical relations among variables. The purpose of a learning theory is to explain the relationship between learning conditions and outcomes.

A principle is an explanation of a replicated empirical relationship between two concepts that best fits the data. An integrated explanation of two or more principles is called a theory.

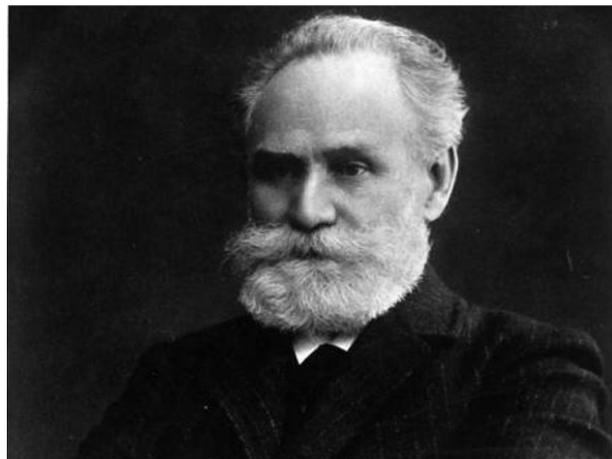


Figure 5.1: Ivan Pavlov

[source](#)

Conditioning is a systematic procedure through which associations and responses to specific stimuli are learned. A stimulus is an event, usually a detectable input that has an impact on the organism. A response on the other hand is the reaction of an organism to a stimulus. Many psychologists have discovered relationships between specific stimuli and responses. They observed that there are certain stimuli that elicit a reflect response.

Ivan Pavlov a Russian psychologist, in 1927 discovered a basic principle of learning which is conditioned. His study of conditioning was quite accidental while he was studying saliva and gastric secretions in the digestive processes of dogs.

He foreknew that it was natural for dogs to salivate as they ate, but he discovered that even at the sight of the food, the dog salivated. This made Pavlov reason that it was

possible that the dog has learned to associate the trainers, who brought them food with food itself. This was what prompted him to begin a research on the salivary reflex of dog.

Box 5.1: Note

A principle is an explanation of a replicated empirical relationship between two concepts that best fits the data. An integrated explanation of two or more principles is called a theory.

5.1.1 Pavlov's Experiment

Pavlov started his study of conditioning in dogs with a relatively simple experiment, which was teaching the dogs to salivate in response to a bell.

First, he surgically moved each dog's salivary gland to the outside of the dog's cheek to make the secretions of saliva accessible. He attached tubes to the relocated salivary glands so that he could collect and then measure precisely the amount of saliva produced by the food (unconditioned stimulus).

The dog was restrained in a harness and isolated from all distractions in a cubicle. Then Pavlov introduced a bell (the new stimulus). He called the bell a neutral stimulus because the sound of a bell does not naturally make a dog to salivate, but rather to attract the attention of the dog.

Pavlov measured the amount of saliva the dog produced when the bell was rung alone; he discovered that the amount was negligible. He began the conditioning process by ringing the bell and immediately placing food in the dog's mouth.

After he did this several times, the dog salivated in response to the sound of the bell alone. Pavlov reasoned that the dog had associated the bell with the arrival of food. He termed the bell which produced salivation as a result of learning, a conditioned stimulus. This is illustrated below;

Table 5.1: Unconditioned stimulus

Unconditioned stimulus produces Unconditioned response
Food ----- Saliva
Conditioned stimulus produces no response
Bell ----- no response
Conditioned + Unconditioned stimulus produces Unconditioned response
Bell + Food ----- Saliva
Conditioned stimulus produces conditioned response
Bell alone ----- Saliva

5.1.2 Principles of classical conditioning

The principles of classical conditioning include;

- 1) Generalization,
- 2) Discrimination,
- 3) Extinction.

❖ **Stimulus Generalization:** this refers to the process by which the conditioned response transfers to other stimuli that are similar to the original conditioned stimulus. Stimulus generalization is referred to as transfer of learning in the classroom, where teachers expect that learners will be able to use the materials they have learned in class in a variety of circumstances.

❖ **Discrimination:** this refers to the process where we learn not to respond to similar stimuli in an identical manner. Then you have been able to differentiate their functions even though they are both uniform men. In the classrooms, learners will find it difficult to learn if they cannot differentiate circles from curved lines or horizontal lines from vertical lines or differentiate the figure 21 from 12 and 25 from 52.

❖ **Extinction:** this refers to the process by which conditioned responses are lost. In Pavlov experiments, he discovered that presenting the bell alone without food, he could eliminate the conditioned response.

5.1.3 Educational Implication of Pavlov's theory in the classroom

Teachers who suspect that a learner is nervous in his class should try to discover what circumstances triggered the anxiety (the stimuli) to help the learner.

Transfer of learning is another educational implication. Teachers should ensure that if they want learners to transfer the materials they have presented to them, then teachers must provide ample opportunity for them to discover the relationship that the subject has to other situations.

Teachers must be able to help the learner differentiate materials that are alike, but look similar in meaning or appearance. Teachers can also help prevent responses that encourage misbehaviours.

5.2 Operant Conditioning – B.F. Skinner (1904-1990)

B. F. Skinner in 1930 began to change the way the psychologist think about conditioning and learning. He questioned the efficiency of Pavlov's classical conditioning theory of learning, because he believed that most behaviours can be explained through an operant conditioning not through classical conditioning, Skinner used the term operant conditioning because the organism operates in an environment.

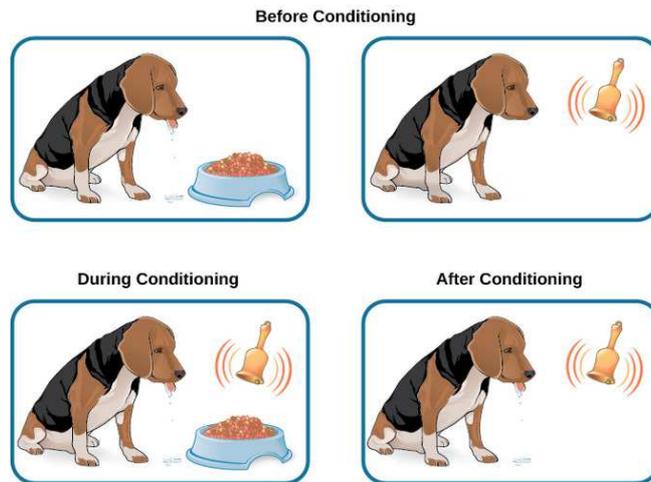


Figure5.2: Diagram process of classical conditioning
Source:

Skinner' Experiment

In Skinner's operant conditioning experiment, a rat that has been deprived of food is placed in a box, seeking food or a means to escape, eventually; it stumbles on a lever and presses it. Immediately following that action, the experimental delivers a pellet of food into a cup. The rat moves some more and happens to press the lever again; another pellet of food is delivered. After a few trials, the rat learns that pressing the lever brings food. A hungry rat will learn to press the lever many times in rapid succession to obtain food.

Teaching an organism a complex response takes many trials because most organisms need to be taught in small steps, through shaping. Shaping is the gradual process of selectively reinforcing behaviours that comes closer and closer to a desired response. For example, a father who wants his son to make his bed neatly will at first reinforce an attempt at bed making, even when it wasn't properly done. Over successful weeks, the father will reinforce only the better attempts, until he finally reinforce only neat bed making. By implication, patience is highly required because it is essential to reinforce all steps towards the desired behaviour, no matter how small.

Skinner is of the opinion that the environment (parent, teacher, peers) reacts to our behaviour and either reinforces or eliminates that behaviour. According to him, behaviour was caused through the following links;

An operation performed upon the organism from without (a child comes to class without having his breakfast)

Some inner conditions (the child gets very hungry)

A kind of behaviour (he becomes restless in class)

Educational Implication of Skinner's Operant Conditioning

What do you think are the educational implications of Skinner's operant conditioning?

Skinner's operant conditioning will enhance teacher's capacity to learn to react quickly to learners' behaviour before time elapses so that reinforcement or punishment can be effective. If time elapses, learners may not know the exact behaviour that they are rewarded for or punished for.

Teachers should never assume that they know why their learners do what they do. Work with what your learners say or do and reinforce appropriately.

Teachers should be clear and precise in giving instructions to their learners, otherwise, they may reinforce behaviour that may or may not lead to desirable outcomes.

Reinforcement should not be too frequent, if not learners will only work for the reinforcement which may not bring about an actual change in behaviour.

5.2.1 Theory of Connectionism – Edward Thorndike (1874-1949)

Thorndike believed that all learning is explained by connections or bonds that are formed between stimuli and responses. These connections occur mainly through trial and error, a process he termed connectionism, or learning by selecting and connecting.

Thorndike's Experiment

Thorndike was interested in whether animals could learn tasks through imitation or observation. To test this, Thorndike created puzzle boxes. The puzzle boxes were approximately 20 inches long, 15 inches wide and 12 inches tall. Each box had a door that was pulled open by a weight attached to a string that ran over a pulley and was attached to the door. The string attached to the door would lead to a lever or button inside the box. When the animal pressed the bar or pulled the lever the string attached to the door would cause the weight to lift and the door to open. Thorndike's puzzle boxes were arranged so that the animal would be required to perform a certain response (pulling a lever or pushing a button), while he measured the amount of time it took them to escape.

Once the animal had performed the desired response they were allowed to escape and were also given a reward, usually food.

Thorndike primarily used cats in his puzzle boxes. When the cats were put into the cages they would wander restlessly and meow, but they did not know how to escape. Eventually, the cats would step on the switch on the floor by chance, and the door would open.

To see if the cats could learn through observation he had them observe other animals escaping from the box. He would then compare the times of those who got to observe others escaping with those who did not, and found that there was no difference in their rate of learning. Thorndike saw the same results with other animals, and he observed that there was no improvement even when he placed the animals' paws on the correct levers, buttons, or bar.

These failures led him to fall back on a trial and error explanation of learning. He found that after accidentally stepping on the switch once, they would press the switch faster in each succeeding trial inside the puzzle box.

By observing and recording the animals' escapes and escape times, Thorndike was able to graph the times it took for the animals in each trial to escape, which eventually resulted in a learning curve. In Thorndike's learning curve the animals had difficulty escaping at first, but eventually "caught on" and escaped faster and faster with each successive puzzle box trial, until they eventually levelled off. The quickened rate of escape results in the s-shape of the learning curve. The learning curve also suggested that different species learned in the same way but at different speeds. From his research with puzzle boxes, Thorndike was able to create his own theory of learning. The puzzle box experiments were motivated in part by Thorndike's dislike for statements that animals made use of extraordinary faculties such as insight in their problem solving

Thorndike meant to distinguish clearly whether or not cats escaping from puzzle boxes were using insight. Thorndike's instruments in answering this question were learning curves revealed by plotting the time it took for an animal to escape the box each time it was in the box.

He reasoned that if the animals were showing insight, then their time to escape would suddenly drop to a negligible period, which would also be shown in the learning curve as an abrupt drop; while animals using a more ordinary method of trial and error would show gradual curves. His finding was that cats consistently showed gradual learning.

Thorndike interpreted the findings in terms of associations. He asserted that the connection between the box and the motions the cat used to escape was strengthened by each escape. A similar, though radically reworked idea was taken up by B. F. Skinner in his formulation of operant conditioning.

The associative analysis went on to figure largely in behavioural work through mid-century, and is now evident in some modern work in behaviour. Thorndike supported Dewey's functionalism and added a stimulus-response component and renamed it connectionism.

Thorndike's Laws of Connectionism

Thorndike formulated three laws of learning which are;

- Law of Readiness,
- Law of Exercise
- Law of Effect.

Law of Readiness: readiness is an important condition of learning, because satisfaction or frustration depends on the individual's state of readiness. Thorndike stated that readiness is like an army sending scout ahead of a train whose arrival at one station sends signals ahead to open or close switches. Schools cannot force learners to learn if they are not biologically and psychologically prepared.

Law of Exercise: Thorndike believed that any connection is strengthened in proportion to the number of times it occurs and in proportion to the average vigour and duration of the connection. Conversely, when a connection is not made between a stimulus and response for some time, the connection strength decreases, because practice makes perfect.

Law of Effect: this law states that the responses accompanied by satisfaction are more firmly connected with a situation while responses accompanied by discomfort have their connections weakened. This implies that the greater the satisfaction or discomfort, the greater the strengthening or weakening of the bond.

Educational Implication of Thordike's theory of Connection

The teacher should know that the learners learn better when their needs and interests are considered; hence the teacher should ensure that the learning activities revolve around the learners.

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.

The teacher should recognize the fact that the learners 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 learners in the classroom.

The teacher should always present his/her materials in a logical and more coherent way. This is the major way of arresting and sustaining the interest of the learners in pedagogical activities.

5.3 Social Cognitive learning – Albert Bandura

Bandura describes social cognitive learning as the information we process from observing other people, things and events that influences the way we act. In our cultural sense, children learn and develop cultural values by observing experienced people engage in culturally important activities. In the same way, parents and teachers are expected to help children or learners act in positive ways by acting responsively before them.

Bandura refers to his theory of social learning as an observational learning, and it has implication for classroom practice. Teachers should understand that children do not only do what adults tell them to do, rather they do what they see the adults do. This implies that teachers are potent force in shaping the behaviour of their learners with the teaching behaviour they demonstrate in class.

Bandura's assumptions of observational learning are;

- ❖ The observer may acquire new responses
- ❖ Observation of models may strengthen or weaken existing responses
- ❖ Observation of models may cause the reappearance of responses that were apparently forgotten.

Bandura's Experiment

Bandura, Ross and Ross (1963) studied the effect of live models, filmed human aggression, and filmed cartoon aggression on pre-school children's aggressive behaviour. The filmed human aggression portrayed adult models displaying aggression towards an inflated doll. The filmed cartoon aggression portrayed a cartoon character displaying the same behaviour as the humans. The live model displayed aggression identical to that in the film. Later, they discovered that all the children exhibited significantly more aggression than the young stars in a control group.

Modelling

Modelling behaviour may be described as one's person's observation of another's behaviour and acquiring of that behaviour in representational form, without simultaneously performing the responses (Bandura, 1977; 1986). The four important processes seen to be involved in observational learning include; Attention, Retention, Motor reproduction processes and Motivational processes.

Attention: an individual's exposure to a model does not ensure an acquisition of behaviour, rather the individual (observer) must attend to and recognize the distinctive features of the model's responses. In this regards, learners who are attracted to the compelling features of desirable models are seen to imitate their clothing, hairstyles, and the mannerism of today's rock stars, athletics, actors and actresses.

Retention: the ability of an individual to reproduce a desired behaviour is a clear indication that he has retained the observed behaviour. When learners observe their teacher teach, they form a mental picture or schema of what the teacher is actually doing. This however can only be possible if the learners are attentive.

Motor reproduction processes: this is the ability of the observer to successfully reproduce what he has observed. In the classroom, teachers can make use of role play to ensure that learners have the right mental picture of what is taught. For example, when learners act out a novel or a drama in a literature, they are able to from the right mental picture of their models and reproduce their behaviours.

Motivational processes: the observer who have successfully reproduced a desired behaviour, will repeat his actions if the conditions are favourable or reinforced. For example, if reinforcement previously accompanied similar behaviour, the individual is likely to repeat it. But vicarious reinforcement (observing a model being reinforced) and self-reinforcement (satisfaction with one's own behaviour) are also powerful human reinforcement.

Educational Implication of Bandura's Observational learning

Teachers must understand that learning occurs from observing others even when the observer doesn't practice the observed behaviour. This implies that teachers must learn to be good models for their learners.

Role play or dramatization is an effective method of teaching because learners will be more attentive when they are expected to imitate a model.

Cooperative learning is encouraged in the classroom because it provides learners with the opportunity to show each other how to work together.

Peer tutoring should be encouraged in the classroom because it encourages one child to imitate another child's skill in performing a special task.

Summary of Study Session 5

In this study session, you have learned that:

This study session has been able to examine some major theories of learning and their educational implications in the classroom. Some of these learning theories are; the classical conditioning theory, the operant conditioning theory, the theory of connectionism, and the theory of social learning.

Self-Assessment Question (SAQs) for Study Session 5

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 5.1 (Tests Learning Outcome 5.1)

Define a theory

AQ 5.2(Tests Learning Outcome 5.2)

Explain in detail the classical conditioning theory

SAQ 5.3(Tests Learning Outcome 5.3)

What are the major assumptions of the social learning theory?

Study Session 6: Discipline in the classrooms

Introduction

Definitely, no productive activity can take place in a classroom without the cooperation of both the teacher and learners. Therefore, one of the most fundamental tasks of a teacher is to enlist the cooperation of learners in activities that lead to learning.

In this study session, you will be exposed to some explanation that requires you to reflect on key illustrations that influences the behaviour, disposition of learners in the classroom in respect to reinforcement.

Learning Outcomes for Study Session 6

At the end of this study session, you should be able to

- 6.1 Explain the term Reinforcement
- 6.2 Highlight the various forms and categories of reinforcement
- 6.3 Identify reinforcement schedules

6.1 Reinforcement

Reinforcement is a strategy used by the teacher to maintain discipline. These reinforcements can be positive as well as negative. In the same way, the teacher can implement many types of positive and negative reinforcements, including eye contact, a call to the parents to pick up their child, a pat on the back, or a token economy.

When deciding which reinforcement to use, the teacher should always try the least restrictive option first and move to a higher level only after attempting to gain control at a lower level. For example, before sending a child to time-out, the teacher might find that distracting the child will bring the desired result.



Figure 6.1: Showing a pat on the back (It means well done)

Source

Only when a variety of positive and negative techniques are used consistently to the pupil, then they will listen to the teacher's voice. Teachers should take responsibility for implementing their own reinforcements, trying various responses to children's behaviour instead of giving up if the first is unsuccessful.

Common reactions from ineffective, reactive teachers rather than practical ones include stating reactive comments without addressing the problem (such as "One more time, and I'm going to give you a time-out") or immediately jumping to more restrictive methods (such as calling parents without even giving a warning first).

Preschool directors do not appreciate the reactive not proactive approach. It is easier to gain a director's support after exhausting all possible less restrictive actions and using all options in the classroom.

Also, effective teachers employ more positive reinforcements than negative ones; doing so helps maintain a fun and positive classroom atmosphere in which good behaviour is rewarded.

Reinforcement is a term used in operant conditioning to refer to a situation of addition or removal of a stimulus to increase the likelihood of future occurrence of a desired behaviour. It is the procedure of giving a reinforce to increase the rate of behaviour and the most important element of behaviour modification.

In a classroom setting, for example, reinforcement might involve presenting praise such as excellent (the reinforce) immediately after a pupil answers a question correctly (the response).

By reinforcing the desired behaviour with praise, the pupil will be more likely to perform the same actions again. Other forms of reinforcement might include getting out of unwanted work, token rewards, extra playtime and fun activities.

In-Text Question

_____ is the process of using a reinforce to increase the rate of behaviour and the most important element of behaviour modification.

- a) Retreat
- b) Repeat
- c) Reinforcement
- d) Learner's prior perception

In-Text Answer

c) Reinforcement

6.1.1 Types of Reinforcement

Positive Reinforcement: involves the addition of stimulus or an event to increase a response. It is the consequences of an action that increase the likelihood that the action will happen again. Such stimuli are called Positive Reinforcers. What reinforces one person on one occasion may not necessarily reinforce another or even the same person on another occasion.

However, there are many reinforcers that work for most human beings. For example, if one makes eye contact with a person who smiles at you in the course of a conversation, one will likely make more eye contact with that person during your conversation. Smiling and making eye contact are the reinforcers in this context. Positive reinforcement is strongest when it occurs just after the target behaviour and weakens the longer its use is delayed.

Negative Reinforcement: involves removing stimulus in order to increase a response. It occurs when an aversive experience suddenly stops. It is mostly common in social

interactions, such as cancelling a quiz if learners turn in all of their homework for the week. By removing the aversive stimulus (the quiz), the teacher hopes to increase the occurrence of the desired behaviour (completing all homework).



Figure 6.1: Answering questions in a Classroom

Source:

6.2 Categories of Reinforcement

Primary Reinforcement: It is also referred to as Unconditional Reinforcement and this occurs naturally and may not require learning in order to work. Primary reinforcers often have an evolutionary basis in that they aid in the survival of species.

Examples of primary reinforcers include food, air, sleep, water and sex. For example, while one person might find a certain type of food very rewarding, another person may not like that food at all.

Secondary Reinforcement: It is also known as Conditioned Reinforcement and it involves stimuli that have become rewarding by being paired with another reinforcing stimulus. For example, when training a dog, praise and treats might be used as primary reinforcers. The sound of a clicker can be associated with the praise and treats until the sound of the clicker itself begins to work as a secondary reinforcer. Examples include money, grades in schools, and tokens.

Schedule of Reinforcement

Schedule of reinforcement refers to a deliberate plan which determines when and how often reinforcement is given to a learner for an appropriate behaviour.

6.2.1 Forms of Reinforcement Schedule

Continuous Reinforcement

A continuous schedule of reinforcement (sometimes abbreviated into CRF) occurs when reinforcement is delivered after every single target behaviour whereas an intermittent schedule of reinforcement (INT) means reinforcement is delivered after some behaviours or responses but never after each one.

Ratio Reinforcement Schedule

This occurs when target behaviour is reinforced after a number of occurrences. This schedule is useful after having established a contingency between the reinforcement and appropriate behaviour with the continuous reinforcement schedule. It is also a good option when continuous reinforcement may be too cumbersome.

Types of Ratio Reinforcement

There are two types of ratio reinforcement, namely;

- Fixed ratio reinforcement
- Variable ratio reinforcement.

Fixed ratio reinforcement is delivered after a given number of occurrences. Examples of fixed ratio reinforcement are reinforcing a child after every fifth math sheet is completed or after every third time a child exhibits sharing behaviour. Fixed ratio reinforcement is

Useful in establishing a contingency between behaviour and reinforcement, when used consistently, because it is systematic.

It is also often preferred by teachers to continuous reinforcement as it can be much more easily managed.

Furthermore, a learner can learn to manipulate this schedule if he or she figures out how often reinforcement is received. For these reasons, it is recommended that a fixed ratio schedule not be used for very long.

In-Text Question

_____ is the reinforcement of target behaviour every time it is exhibited.

- a) Fixed interval reinforcement
- b) Variable ratio reinforcement
- c) Continuous Reinforcement
- d) Ratio Reinforcement Schedule

In-Text Answer

c) Continuous Reinforcement

Variable ratio reinforcement schedule involves delivering reinforcement after an approximate number of times the target behaviour is exhibited. Reinforcement might be

delivered on average after every fifth math sheet is completed but could range in delivery from every third to every eighth sheet. This schedule is

Useful for beginning maintenance of a reasonable well-established behaviour and can be used when fading out a fixed ratio schedule. Since it is less systematic or consistent than either continuous or fixed ratio reinforcement

Not good for teaching a new behaviour.

Interval Reinforcement Schedule

Interval Reinforcement Schedule occurs when target behaviour is reinforced after a period of time. This schedule is useful for behaviours which can be measured in terms of their duration, for example, in-seat behaviour, on-task behaviour, etc.

Types of Interval Reinforcement Schedule

There are two types of interval reinforcement namely fixed interval and variable interval reinforcement,

Fixed interval reinforcement designates a specific interval of time, after which reinforcement is delivered contingent on appropriate behaviour. Example of fixed interval reinforcement involves the delivering of reinforcement after every five minutes of on-task behaviour. This is a very systematic and consistent schedule, excellent in strengthening behaviour. However, as with fixed ratio reinforcement, if reinforcement is simply stopped research shows that the gains made in behaviour will also deteriorate.

Variable interval reinforcement is like variable ratio reinforcement in that reinforcement is delivered after an average length of time. This schedule is effective for already established behaviours and can be used when fading out a fixed interval schedule.

Punishment

Punishment is an aversive event that suppresses on-going behaviour and causes avoidance or even escape. For example, a dog looking up at its master at the dinner table, if instead of getting a scrap of meat from the table it got a slap on the nose the dog would likely withdraw with a slight yelp.

It's looking up for food would be suppressed, at least momentarily. If it got a slap every time it tried to look up, the act of coming up to the table would eventually be suppressed. If its master came after it with a stick it would try to escape.



Figure 6.3: A dog looking to her master.

Source: <http://www.vetstreet.com/our-pet-experts/why-does-my-dog-stare-at-me>

Punishment does not reinforce anything or teach any new behaviour but merely causes the animal to stop whatever its doing and try to get away. It works the same way for people. For humans, the threat of punishment is enough to suppress behaviour.

To be effective and at the same time humane, the stimulus must be intense enough to reduce the desire to repeat the behaviour, without causing physical harm or undue discomfort. Timing and consistency are critical in punishment application. If punishment is not immediately successful at stopping the behaviour, it should not be used at all.

Types of Punishment

Positive Punishment is the application of a stimulus that decreases the chance of a behaviour being repeated.

Negative Punishment is the removal of a stimulus or event that is positive to lower the probability that behaviour will be repeated. For example, if a dog expects a piece of food for an action and that food is withheld because the dog's behaviour is inappropriate or not sufficiently accurate, the behaviour will be less likely to be repeated.

In-Text Question

_____ is an aversive event that suppresses on-going behaviour and causes avoidance or even escape.

- a) Positive Punishment
- b) Negative Punishment
- c) Fixed ratio reinforcement
- d) Punishment

In-Text Answer

- d) Punishment

Summary of Study Session 6

In this study session, you have learned the following:

1. The context of reinforcement describes the meaning of reinforcement, its types, and its various categories, reinforcement schedule and its forms as well as the use of punishment in stopping or reducing the occurrence of undesired behaviour.
2. Punishment does not reinforce anything or teach any new behaviour but merely causes the animal to stop whatever its doing and try to get away

Self-Assessment Question (SAQs) for Study Session 6

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 6.1 (Test Learning Outcomes 6.1)

What is Reinforcement? Mention examples of reinforcement commonly used in a classroom setting.

SAQ 6.2 (Tests learning Outcomes 6.2)

Explain the types of reinforcement you know?

What is Schedule of Reinforcement? Discuss the various forms reinforcement schedule

Describe the importance of punishment in reinforcing target behaviour

Study Session 7: Behaviour Modification in the Classroom

Introduction

The classroom teacher needs to ensure acceptance for all learners in the classroom. Teachers' actions that can promote acceptance include choosing learning materials to represent all groups of learners ensuring that all learners can participate in extra activities valuing, respecting, and talking about differences celebrating cultural and ethnic differences.

Learning activities are designed for a variety of abilities ensuring that all learners are protected from name-calling or other forms of abusive language modelling acceptance. Well-defined rules in the classroom can prevent many behavioural difficulties.

When learners are involved in the development of the rules, they are more likely to adhere to them and understand why they have been put into place.

Learning outcomes for study session 7

At the end of this study session, you should be able to

7.1 Explain the concept of behaviour modification

7.1 Behaviour Modification

The context of Behaviour Modification explains how behaviour could be modified and the strategies employ as well as situations where such strategies are applicable.

Behavioural modification is the application of psychological principles to enhance desirable behaviour and correcting or controlling undesirable behaviour. It is based on the work of B.F. Skinner (1938, 1958) and the broad area of psychology called learning theory.

7.1.1 Strategies for Behaviour Modification

The following strategies are used to modify learners' behaviour;

Positive Reinforcement: This is used when there is a need to promote desirable behaviour. For example, to encourage a learner to keep excellence performance, the

teacher observes the target behaviour in the learner and rewards it with either praise or a prize.

Negative Reinforcement: Negative reinforcement is used to encourage the occurrence of desirable behaviour by removing obstacles against recurrence. Bed-wetting is often caused by late-night drinks. Eliminating drinks after dinner and perhaps instituting a wakening late at night for going to the toilet may help achieve a dry bed.

Extinction or Ignoring: This is used when a learner's behaviour (usually self-defeating), is best eliminated. The undesired behaviour is simply ignored rather than punished or reinforced. For instance, in a class, a particular pupil often attracts the teacher's attention by calling out 'Sir, Sir,' instead of putting up his hand.

Calling out the teacher is distracting, especially if all the pupils do it at the same time. Such pupil could be ignored, until he puts up his hand. Drawing the learner's attention to the strategy may increase its effectiveness, as there is consistency in its application.

In-Text Question

_____ is a need to promote desirable behaviour?

- a) Positive Punishment
- b) Negative Punishment
- c) Fixed ratio reinforcement
- d) Ratio Reinforcement Schedule

In-Text Answer

- a) Positive Reinforcement

Modelling: this could be used to help pupils adopt new behaviour. The pupil is made to observe a role model (usually someone he or she admires or an authority) demonstrate desirable behaviour, or condemn undesirable behaviour. A pupil in an upper class can, for example, be a model for pupils in a lower one.

By observing him or her, other pupils may learn to do the same. With this technique, one could also use a modelling exercise. Assist a pupil to deal with a particular behaviour situation through role-playing or exercises.

For example, a 'disciplined pupil' could be used as a model of desirable behaviour. You could then proceed to ask the pupil to imagine that she is a disciplined pupil, and then act as she believes that person would, like a role in a play. Later, you can ask her how she felt and follow this up with a dialogue.

Punishment: This is used when it becomes necessary to apply an aversion stimulus to correct undesirable behaviour. When you see the many techniques available for modifying behaviour, you may realize that this technique has been over used. Schools have been known to use good, honest work as 'punishment,' leading to stigmatization in learners' minds. Examples of this may include cutting grass or digging in the school garden.

In-Text Question

When a learner's behaviour is usually self-defeating, it is known as_____?

- a) Modelling
- b) Over-Correction
- c) Time-out
- d) Extinction

In-Text Answer

d) Extinction

Systematic Desensitization: Systematic desensitization refers to exposing a person repeatedly to stimuli that causes fear, anxiety, or aggression in sufficiently small doses so as not to cause the response.

The stimuli are then gradually increased at increments that do not lead to a recurrence of the response. The stimuli are repeated so many times with no effect that they become inconsequential and a relaxed response is built up. This technique is effective when dealing with anxiety and other fear-related problems.

For example, a learner who fears to speak in class may first practise speaking only with the teacher. When she is comfortable with that, she may be given an opportunity to speak with the teacher and two classmates. After that, she may try to become involved in a small discussion group, and so on until her fear is mastered and she gains the confidence to speak in class.

Over-Correction: This is used when a mild punishment is administered for purposes of reducing disruptive behaviour. Has explained in literatures, it requires the culprit to restore the environment he has damaged to a better condition than existed before his disruptive behaviour occurred. It is effective when a learner writes on a wall or carves on a school desk. Scrubbing, painting or sanding damaged property may produce effective behavioural changes in the future.

Time-out: Time-out is used to control the occurrence of undesirable behaviour in pupils by the withdrawal of privileges in the event of the occurrence of undesirable behaviour. A learner who disrupts classmates in the library, for example, will probably do so because he is reinforced by doing so. The loss of library privileges, or sitting alone for a period of time while others are together, may help to eliminate the problem behaviour.

Response Cost: This technique is used to eliminate undesirable behaviour by making the culprit forfeit something valuable. For example, when a learner fails to eat canteen food, he may lose access to canteen privileges.

Shaping: Shaping refers to the process whereby an individual can be trained to perform increasingly complex tasks by building on existing knowledge. This is accomplished by gradually withdrawing rewards for general behaviours and progressively rewarding only the behaviours that more closely approximate the desired behaviour.

It is related to the above example of systematic desensitization but small successful steps are linked together to produce major behaviour changes. A dirty learner may first be taught to bathe daily, and after a consistent behaviour change is made, hair combing may be addressed, laundry care, etc.

Assertiveness Training: it is used to help pupils control excessive shyness, and other fear-related problems, that impede their ability to live fully. Assertiveness training is a widely used behavioural technique. It is based on a combination of modelling and operant reinforcement approaches.

Its purpose is to teach people how to stand up for themselves without being aggressive. These are examples of situations that involve assertive behaviour. Assertiveness can be defined as communication in which one expresses oneself in a direct and honest manner

in interpersonal situations, while simultaneously respecting the rights and dignity of others.

Exploitation depends on the compliant behaviour of the person exploited. Assertiveness training can be carried out with individuals or in groups. It is relevant for a wide range of interpersonal problems. You can use it to increase assertive skills and reduce aggressiveness in favour of assertiveness.

In-Text Question

_____ is the process whereby an individual can be trained to perform increasingly complex tasks by building on existing knowledge.

- a) Learning
- b) Seminar
- c) Shaping
- d) Punishment

In-Text Answer

c) Shaping

Aversion therapy: is a procedure for eliminating undesirable behaviour by pairing the unwanted behaviour with a sufficiently unpleasant stimulus. For example, pairing an aversive stimulus such as bitter taste, a foul odour, or irritating noise with the behaviour (e.g., rock eating, destructive chewing, compulsive licking), the behaviour may be eliminated.

In humans, associating shock or a nauseate such as Apo morphine with smoking, or a bitter compound with nail biting, may successfully stop the undesirable habit. To be successful, the degree of noxiousness or discomfort must outweigh the motivation to perform the behaviour. Taste aversion is a specific form of aversion therapy.

Reciprocal Inhibition: this is a method of behaviour therapy based on the inhibition of one response by the occurrence of another response that is mutually incompatible with it; a relaxation response might be conditioned to a stimulus that previously evoked anxiety.

Token Economy: this is a form of behaviour therapy that has been used in some mental institutions; patients are rewarded with tokens for appropriate behaviour and the tokens may be cashed in for valued rewards.

Summary of Study Session 7

In this study session, you have learned the following:

1. The context of Behaviour Modification explains its meaning and the various strategies of modifying behaviour such as positive reinforcement, negative reinforcement, ignoring, modelling, punishment, systematic desensitization, over correction, time-out,

response cost, shaping, assertiveness, aversion therapy, reciprocal inhibition and token economy.

Self-Assessment Question (SAQs) for Study Session 7

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 7.1 (Tests Learning Outcomes 7.1)

What is Behaviour Modification?

List the various strategies for behaviour modification?

- Explain the following concepts;
- Positive Reinforcement
- Negative Reinforcement
- Extinction or Ignoring
- Modelling or Role playing
- Punishment
- Response Cost
- Shaping
- Assertiveness
- Aversion therapy
- Reciprocal Inhibition
- Token Economy.

Study Session 8: Personality and Learning

Introduction

Learning takes place in all areas of life, however, many educational psychologists have discovered the relationship that exist between learning and some psychological constructs like self-efficacy, emotional intelligence, self-concept, personality and so on.

They are of the belief that an increase or decrease in these psychological construct could either facilitate or hinder learning in the learners. This study session will reveal some of the relationships as it relates to the teaching and learning process.

Learning Outcomes for Study Session 8

At the end of this study session, you should be able to

8.1 Discuss the Personality and learning

8.2 Emotional intelligence and learning

8.1 Personality and Learning

Human traits to a large extent constitute the behaviour of an individual. These personality traits are what describes our person and determines our attitudes towards others. Personality psychology is a branch of psychology that studies personality and its variation between individuals. Its areas of focus include:

- ❖ Construction of a coherent picture of the individual and his or her major psychological processes.
- ❖ Investigation of individual psychological differences.

A brief definition would be that personality is made up of the characteristic patterns of thoughts, feelings, and behaviours that make a person unique Investigation of human nature and psychological similarities between individuals.

Personality refers to individuals' characteristic patterns of thought, emotion, and behaviour, together with the psychological mechanisms hidden or not behind those patterns.

In-Text Question

Personality is made up of the characteristic patterns of thoughts, feelings, and behaviours that make a person unique Investigation of human nature and psychological similarities between individuals.

- a) Extinction
- b) Personality
- c) Modelling

d) Shaping

In-Text Answer

b) Personality

The study of personality has a broad and varied history in psychology with an abundance of theoretical traditions. The major theories include dispositional (trait) perspective, psychodynamic, humanistic, biological, behaviourist, evolutionary and social learning perspective.

However, many researchers and psychologists do not explicitly identify themselves with a certain perspective and instead take an eclectic approach. Research in this area is empirically driven, such as dimensional models, based on multivariate statistics, such as factor analysis, or emphasizes theory development, such that of the psychodynamic theory. There is also a substantial emphasis on the applied field of personality testing. In psychological education and training, the study of the nature of personality and its psychological development is usually reviewed as a prerequisite to courses in abnormal psychology or clinical psychology.

Box 8.1: Learning

Learning is the act of acquiring new, or modifying and reinforcing, existing knowledge, behaviours, skills, values, or preferences and may involve synthesizing different types of information.

The ability to learn is possessed by humans, animals and some machines. Progress over time tends to follow learning curves. Learning is not compulsory; it is contextual. It does not happen all at once, but builds upon and is shaped by what we already know.

To that end, learning may be viewed as a process, rather than a collection of factual and procedural knowledge. Learning produces changes in the organism and the changes produced are relatively permanent.

Human learning may occur as part of education, personal development, schooling, or training. It may be goal-oriented and may be aided by motivation. The study of how learning occurs is part of educational psychology, neuropsychology, learning theory, and pedagogy.

1. Self-efficacy and Learning

Self-efficacy is helping learners believe in themselves. Self-efficacy is commonly defined as the belief in one's capabilities to achieve a goal or an outcome. Self-efficacy is the

belief in one's capabilities, or the degree of confidence that people have in their ability to succeed at a task that matters to them.

2. **Performance Accomplishments:** The manner in which accomplishments are received has an influence on an individual's self-efficacy expectations and actions. In the classroom, for example, poor grades and other negative assessments of ability can lower self-efficacy beliefs while high grades and positive assessment of ability will lead to higher self-efficacy beliefs.

3. **Vicarious Learning:** Beliefs are often acquired through observation and interpretation. In observing the modelling behaviour of others, the learner is able to reflect on past experiences with such behaviour and make meaning of its relevance in a new situation.

4. **Verbal Persuasion:** Beliefs about self are influenced by the messages conveyed by others. Encouragement supports career-related self-efficacy, criticism hampers it. Families, friends, and teachers who have their own agendas, may inadvertently (or even overtly) limit the educational and vocational progression by discouraging certain occupational interests, choices, and engagement.

In-Text Question

_____ is a person's judgment about being able to perform an educational activity.

- a) Affective status
- b) Learning theory
- c) Personality
- d) Self-efficacy

In-Text Answer

d) Self-efficacy

5. **Physical/Affective Status:** Stress and anxiety have a negative effect on self-efficacy as well as learning. The brain learns optimally when appropriately challenged, but downshifts under perceived threat. It functions best in a supportive environment. Therefore, conditions that cause conflicts may portend low levels of self-efficacy and result in low participation and outcome expectations.

8.1.1 The Effect of Self-Efficacy on Learning

The success of learners in any task has the potency of increasing their self-efficacy while failure can deflate the self-efficacy of learners in subsequent task. This implies that when learners perform very well in an assigned task, and are well appraised, their success builds a sense of competence in them that gives them the confidence to attempt other tasks even more difficult than the previous ones.

On the other hand, failure brings shame that can make a learner feel less competent in other tasks, preventing him or her from giving engaging in other tasks to avoid further embarrassment. Teachers are however encouraged to help instill some level of confidence in these learners by projecting the strength of these learners and not make a caricature of their inefficiencies.

1. Self-Concept and Learning

One's self-concept (also called self-construction, self-identity, or self-perspective) is a collection of beliefs about oneself that included elements such as academic performance, gender roles and sexuality and racial identity.

Self-concept is made up of one's self-schemas, and interacts with self-esteem, self-knowledge, and the social self to form the self as whole. It includes the past, present, and future selves, where future selves (or possible selves) represent individuals' ideas of what they might become, what they would like to become, or what they are afraid of becoming. Possible selves may function as incentives for certain behaviour.

2. Self-Esteem and Learning

Self-esteem results from viewing yourself positively within the context of your surroundings. How well you get along with peers and family members and how you judge yourself in comparison with others shapes your self-esteem. Whether at home, school, or the workplace, how well you understand and respond to ever-changing interpersonal demands also shapes your self-esteem. (Self-esteem is evaluative and opinionated e.g. "I feel good about being a fast runner")

It is precisely this area—the area of interpersonal relationships—in which individuals with a learning disability (LD) may have the greatest difficulty. And this can foster feelings of inadequacy and low self-esteem. With help and support, however, individuals with LD can build the self-esteem they need to achieve success in any arena.

In-Text Question

_____ results from viewing yourself positively within the context of your surroundings.

- a) Self-Concept

- b) Verbal Persuasion
- c) Vicarious Learning
- d) Self-esteem

In-Text Answer

- d) Self-esteem

8.2 Emotional Intelligence and Learning

Emotional intelligence (EI) is the capacity of individuals to recognize their own, and other people's emotions, to distinguish between different feelings and label them appropriately, to use emotional information to guide thinking and behaviour, and to manage or adjust emotions to adapt environments or achieve one's goals.

Different models of emotional intelligence have led to the development of various instruments for the assessment of the construct. While some of these measures may overlap, most researchers agree that they tap different constructs.

Specific ability models address the ways in which emotions facilitate thought and understanding. For example, emotions may interact with thinking and allow people to be better decision makers (Lyubomirsky et al. 2005).



Figure 8.2: Their emotions are already influencing their activities

source

For instance, if you are more responsive emotionally, crucial issues will influence crucial aspects of your life. Aspects of emotional facilitation factor are to also know how to include or exclude emotions from thought depending on contexts and situations. This is also related to emotional reasoning and understanding in response to the you, your environment and circumstances, that you encounter every day.

Therefore, emotional intelligence is the ability to monitor your own and other people's emotions to discriminate between different emotions among your peers and to use emotional information to guide educational/learning thinking and behaviour. Emotional intelligence also reflects abilities to join intelligence, empathy and emotions to enhance the thinking and understanding of interpersonal dynamics.

If you have high emotional intelligence you are able to recognize your own emotional state and the emotional states of others, and engage with people in a way that draws them to you. You can use this understanding of emotions to relate better to other people, form healthier relationships, achieve greater success at work, and lead a more fulfilling life.

8.2.1 Emotional Intelligence Models

Early theorist such as Thorndike and Gardner paved the way for the current experts in the field of emotional intelligence. Each theoretical paradigm conceptualizes emotional intelligence from one of two perspectives: ability or mixed model. In contrast, mixed models of emotional intelligence combine mental ability with personality characteristics such as optimism and well-being (Mayer, 1999).

Salovey and Mayer: An Ability Model of Emotional Intelligence

Mayer and Salovey conception of emotional intelligence is based within a model of intelligence, that is, it strives to define emotional intelligence within the confines of the standard criteria for a new intelligence (Mayer, Salovey, Caruso, and Sitarenios, 2003).

It proposes that emotional intelligence is comprised of two areas: experiential (ability to perceive, respond and manipulate emotional information without necessarily understanding it) and strategic (ability to understand and manage emotions without necessarily perceiving feelings well or fully experiencing them).

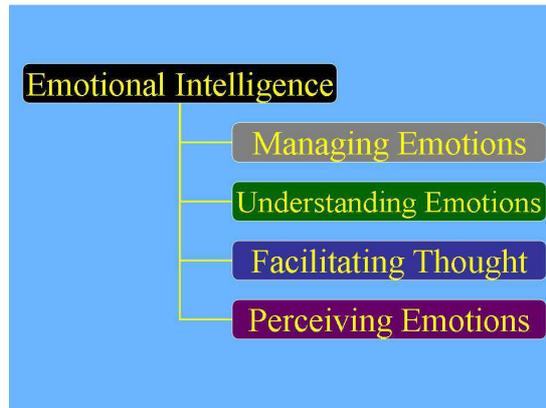


Figure 8.3: salovey and mayer emotional intelligence model

Each area is further divided into two branches that range from basic psychological processes to more complex processes integrating emotion and cognition.

- The first branch, emotional perception, is the ability to be self-aware of emotions and to express emotions and emotional needs accurately to others. Emotional perception also includes the ability to distinguish between honest and dishonest expressions of emotion.
- The second branch, emotional assimilation, is the ability to distinguish among the different emotions one is feeling and to identify those that are influencing their thought processes.
- The third branch, emotional understanding, is the ability to understand complex emotions (as feeling two emotions at once) and the ability to recognize transitions from one to the other.
- Lastly, the fourth branch, emotion management, is the ability to connect or disconnect from an emotion depending on its usefulness in a given situation (Mayer and Salovey, 1997).

Bar-On: A mix model of emotion intelligence

Reuven Bar-on developed one of the first measures of emotional intelligence that used the term “Emotion Quotient”. Bar-on’s model of emotional intelligence relates to the potential for performance and success, rather than performance or success itself, and is considered process-oriented rather than outcome-oriented (Bar-On, 2002).

In his model, Bar-On outlines 5 components of emotional intelligence: intrapersonal, interpersonal, adaptability, stress management, and general mood. Within these components are sub-components, all of which are outlined in table below. Bar-On posits that emotional intelligence develops over time and that it can be improved through training, programming, and therapy (Bar-On, 2002).

Bar-On considers emotional intelligence and cognitive intelligence to contribute equally to a person's general intelligence, which then offers an indication of one's potential to succeed in life (Bar-On, 2002).

Goleman: A mixed model of emotional Intelligence

Daniel Goleman, a psychologist and science writer who had previously written on brain and behaviour research for the New York Times, discovered the work of Salovey and Mayer in the 1990's. Goleman's model outlines four main emotional intelligence constructs.

- The first, self-awareness, is the ability to read one's emotions and recognize their impact while using gut feelings to guide decisions. Self-management,
- Second construct, involves controlling one's emotions and impulses and adapting to changing circumstances.
- The third construct, social awareness, includes the ability to sense, understand, and react to other's emotions while comprehending social networks.
- Finally, relationship management, the fourth construct, entails the ability to inspire, influence, and develop others while managing conflict (Goleman, 1998).

8.2.2 Interest

Interest can be seen as learners' involvement in learning of which its progress or success is important to him or her. Learners are said to put in their best in tasks, when they are interested and fully engaged. Interest has a strong influence on an individual's cognitive and affective functioning.

Interest and Learning

Interest is a state of curiosity or concern about or attention to learning. Interest has been said to have a strong positive influence on learners comprehension, recall and learning; Schraw et al (1995, Schiefele&Krap (1996). The relationship between interest and learning has basically focused on three types of interests; individual, situational, and topic.

Individual interest: it is considered as an individual's preposition to attend to certain stimuli, events and objects. It is an individual's level of interest that results in increased learning. this interest could either be general or specific depending on the domain. For example, a topic taught could arouse interest in an individual that helps the learner remain focused in class, thereby aiding learning.

Situational interest: this is elicited or stimulated by certain aspects of the environment. It is characterized by focused attention and a range of emotions or feeling, which can either be positive or negative. It could also be referred to as the environmental influence on the task learned; such that if a topic is taught in class and there is a fight going on outside the classroom, there is a tendency that the attention of some of the learners will be divided.

Situational interest may be important for learners who do not have any existing individual interest in their school activities; they can be introduced or confronted with a personal relevant text or novel relating to the topic learned.

Topic interest: this refers to the level of interest triggered when a topic is presented. This interest could be aroused by a word or paragraph in that topic. This implies that when a topic is interesting, it will trigger interest in the learner, which in turn will increase learning. For example, topics related to sexual behaviours could trigger the interest of adolescents.

Anxiety and Learning

Anxiety is a feeling of fear, worry and uneasiness usually generalized as an overreaction to a situation that is only subjectively seen as menacing. It is also said to be an unpleasant state of inner chaos, often associated with nervous behaviour especially when faced with a challenge such as examination, interview or presentation.

The Effect of Anxiety on Learning

The effect of anxiety on academic performance is not always obvious. But new research suggests that there may be hidden costs. The study found that anxious individuals find it harder to avoid distractions and take more time to turn their attention from one task to the next than their less anxious peers.

Attention: learners find it difficult paying attention in class when they are anxious. For example, if the learners are told before the commencement of the lesson that the assignment given to them the previous day will be collected and those who didn't attempt the assignment will be punished, from that moment the announcement is made, those who are guilty of not doing their assignment will be so anxious such that they may not be attentive to the lesson.

In-Text Question

.....is a state of curiosity or concern about or attention to learning

In-Text Answer

Interest

1. Concentration: when learners are anxious, they find it difficult concentrating on what is being taught. For instance, if learners discover that while the lesson is going on, the school administrators are going class by class to send learners who haven't paid their fees sent home, the affected learners in that class cannot concentrate no matter how interesting the class is, because they are more concerned with the embarrassment they will be faced with when the school administrators identifies them.

2. Interpretation: anxious learners interpret situations as dangerous. For example, a school which is too strict in discipline will have more of their learners too anxious because they will always perceive every action as threatening. If in this situation, a teacher walks into a class and says to a learner 'see me in my office after your class', that learner from that moment becomes disoriented because he begins to interpret that request to mean that he has done something wrong and will be punished.

3. Locus of Control

Locus of control involves the extent to which individuals believe that an outcome is contingent on their behaviour or personal characteristics rather than being a function of external events not under their control or simply unpredictable (Lefcourt, 1992; Rotter, 1990). Locus of control influences how people view the world and how they identify the cause of success or failure they experience. Some people can attribute their success or failure to their ability or personal negligence which are internal factors or to others around them which are environmental factors.

4. Locus of Control and Learning

Locus of control has great effect on learners' behaviour towards learning in the classroom. Learners who are characterized as internal are more likely than others to show high academic performance. On the other hand, learners with more of external locus of control believe that they have little control over their lives. For this category of learners, they may attribute a poor grade to the lousy teacher, feeling there was nothing he or she could have done to get a good grade.

Summary of Study Session 8

In this study session, you have learned that:

This study session examined what personality is and its relationship with learning. The relationship between some personality constructs and learning were also examined. Constructs like emotional intelligence, self-efficacy, self-concept and so on.

Self-Assessment Question (SAQs) for Study Session 8

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 8.1(tests learning Outcomes 8.1)

What is the influence of high self-efficacy on learning?

Describe the relationship between emotional intelligence and learning

SAQ 8.2(tests learning Outcomes 8.2)

Describe the relationship between anxiety and learning

Discuss the effect of anxiety on learning

Study Session 9: Cognitive Development

Introduction

Cognitive development is a field of study in neuroscience and psychology focusing on a child's development in terms of information processing, conceptual resources, perceptual skill, language learning, and other aspects of brain development and cognitive psychology compared to an adult's point of view. In other words, cognitive development is the emergence of the ability to think and understand.

A large portion of research has gone into understanding how a child imagines the world. Jean Piaget was a major force in the establishment of this field, forming his "theory of cognitive development".

Learning outcomes for study session 9

At the end of this study session, you should be able to

- 9.1 Explain Piaget's theory of cognitive development
- 9.2 Identify his different stages of development
- 9.3 Explain Vygotsky's theory of cognitive development

9.1 Piaget and Cognitive Development

Piaget's theory of cognitive development is a comprehensive theory about the nature and development of human intelligence, first developed by Swiss developmental psychologist Jean Piaget (1896–1980). It is primarily known as a developmental stage theory but, in fact, it deals with the nature of knowledge itself and how humans come gradually to acquire, construct, and use it.

To Piaget, cognitive development was a progressive reorganization of mental processes as a result of biological maturation and environmental experience.

Accordingly, children construct an understanding of the world around them, and experience discrepancies between what they already know and what they discover in their environment. Moreover, Piaget claimed the idea that cognitive development is at the center of human organism, and language is contingent on cognitive development.



Figure:9.1: JeanPiaget

Source:

9.2 Piaget's Stages of Cognitive Development

The following are Piaget's stages of Cognitives development;

1. Sensorimotor stage
2. Birth to one month
3. 1–4 months
4. 5–8 months
5. 8–12 months
6. 12–18 months

7. 18–24 months
8. Preoperational stage
9. Concrete operational stage
10. Formal Operational Stage

9.2.1 Sensorimotor stage

The first stage in Piaget's Stages of Cognitive Development is the sensorimotor stage. This stage lasts from birth to two years old.

During this stage, behaviours lack a sense of thought and logic. Behaviours gradually move from acting upon inherited reflexes to interacting with the environment with a goal in mind and being able to represent the external world at the end.

The sensorimotor stage has been broken down into six sub stages that explain the gradual development of infants at this age.

9.2.2 Birth to one month

Each child is born with inherited reflexes that they use to gain knowledge and understanding about their environment. Examples of these reflexes include grasping and sucking.



Figure 9.2: Baby sucking

9.2.3 1–4 months

Children repeat behaviours that happen unexpectedly because of their reflexes.

For example, a child's finger comes in contact with the mouth and the child starts sucking on it. If the sensation is pleasurable to the child, then the child will attempt to recreate the behaviour.¹

9.2.4 5–8 months

Child has an experience with an external stimulus that they find pleasurable, so they try to recreate that experience. For example, a child accidentally hits the mobile above the crib and likes to watch it spin. When it stops the child begins to grab at the object to make it spin again. In this stage habits are formed.

9.2.5 8–12 months

Behaviours will be displayed for a reason rather than by chance. They begin to understand that one action can cause a reaction. They also begin to understand object permanence, which is the realization that objects continue to exist when removed from view. For example: The baby wants a rattle but the blanket is in the way. The baby moves the blanket to get the rattle.

9.2.6 12–18 months

Actions occur deliberately with some variation. For example a baby drums on a pot with a wooden spoon, then drums on the floor, then on the table.

In-Text Question

_____ deals with the nature of knowledge itself and how humans come gradually to acquire, construct, and use it.

- a) Symbolic thought
- b) Sensorimotor stage
- c) Preoperational stage
- d) Cognitive Development

In-Text Answer

d) Cognitive Development

9.2.7 18 - 24 months

Children begin to build mental symbols and start to participate in pretend play. For example, a child is mixing ingredients together but doesn't have a spoon so they pretend to use one or use another object to replace the spoon.

Symbolic thought is a representation of objects and events as mental entities or symbols which helps foster cognitive development and the formation of imaginations. These six sub- stages represent the approximate growth a child undergoes during Piaget's sensorimotor stage from birth to age 2. Once the child gains the ability to mentally represent reality, the child begins the transition to the preoperational stage of development.

In-Text Question

Behaviours will be displayed for a reason rather than by_____

- a) Opportunity
- b) Time-out
- c) Chance
- d) Vacancy

In-Text Answer

c) Chance

9.2.8 Preoperational stage

This stage lasts from 2 years of age until 6 or 7. It can be characterized in two different ways. Piaget described the child's thought during this period as being governed by principles such as egocentrism, animism and other similar constructs. Egocentrism is when a child can only see a certain situation his or her own way. One cannot comprehend that other people have other views and perceptions of scenarios. Animism is when an individual gives a lifeless object human like qualities.

9.2.9 Concrete operational stage

This stage lasts from 6 or 7 years until about 12 or 13. During this stage the child's cognitive structures can be characterized by group therapy. Piaget argues that the same general principles can be discerned in a wide range of behaviours. One of the best-known achievements of this stage is that of conservation.

In a typical conservation experiment a child is asked to judge whether or not two quantities are the same – such as two equal quantities of liquid in a short and tall glass. A preoperational child will typically judge the taller, thinner glass to contain more, while a concrete operational child will judge the amounts still to be the same. The ability to reason in this way reflects the development of a principle of conservation.

9.2.10 Formal Operational Stage

Adolescents who reach this fourth stage of intellectual development are able to logically use symbols related to abstract concepts, such as algebra and science. They can think about multiple variables in systematic ways, formulate hypotheses, and consider possibilities. They also can ponder abstract relationships and concepts such as justice.

Although Piaget believed in lifelong intellectual development, he insisted that the formal operational stage is the final stage of cognitive development, and that continued intellectual development in adults depends on the accumulation of knowledge.

Educational Implications of Piaget's Theory

Piaget's theory has a major impact on the theory and practice of education. There are four main teaching implications drawn from Piaget's theory:

1. A focus on the process of children's thinking, not just its products is very crucial in teaching and learning. This implies that instead of simply checking for a correct answer, teachers should emphasize the learner's understanding and process they used to get the answer.
2. Recognition of the crucial role of children's self-initiated, active involvement in learning activities is very vital the classroom. In a Piagetian classroom, children are encouraged to discover themselves through spontaneous interaction with the environment, rather than the presentation of ready-made knowledge.
3. Acceptance of individual differences in developmental progress of learners is a core factor for learning. Piaget's theory asserts that children go through all the same developmental stages; however they do so at different rates. Because of this, teachers must make special effort to arrange classroom activities for individuals and group of children rather than for entire class as a whole.
4. The educational implication of Piaget's theory is the adaptation of instruction to the learner's development level. It is important that the content of instruction needs to be consistent with the developmental level of the learner.
5. The teacher's main role is the facilitation of learning by providing various experiences for the learners. "Discovery Learning" allows opportunities for learners to explore and experiment, while encouraging new understandings.

9.3 Vygotsky and Mental Development

Vygotsky believed children's thinking is affected by their knowledge of the social community (which is learnt from either technical or psychological cultural tools). He also suggested that language is the most important tool for gaining this social knowledge; the child can be taught this from other people via language. He defined intelligence as "the capacity to learn from instruction".

Mental development is also known as cognitive development. It is basically the construction of mind activity such as thought processes, memory, problem solving and decision making as well as over-all intelligence.

Cognitive development is the name given to the area of study in neuroscience and psychology that looks at a child's brain development and the aspects within. Issues within

cognitive development include nature over nurture, culture and social situations and environmental effects.



Figure9.2: LevVygotsky
Source:

Common problems in cognitive development include a lack of development during childhood and as a result can cause problems such as autism and other learning difficulties. In 2004, it was accepted that cognitive development occurs as a result of both hereditary situations as well as environmental situations.

In-Text Question

The capacity to learn from instruction was stated by _____

- a) Piaget's theory
- b) Lev Vygotsky
- c) Salovey
- d) Mayer

In-Text Answer

b) Lev Vygotsky

9.3.1 Educational Implications of Vygotsky Mental Development

1. Vygotsky (1978) believed that each learner operates within a range of ability and that educators would best facilitate learning by presenting learners with work that challenges without overwhelming them. If work is too easy the learner will be

bored, while if the work is too difficult the learner will not have the intellectual tools necessary to learn anything from attempting the work.

2. Vygotsky's work focused on learning and cognitive development in children; however his insights can be successfully adapted and applied to both traditional and non-traditional college learners.
3. Advisors see the practical implications of Vygotsky's theory every day. His theories underpin the many university degree structures and prerequisite systems. They are probably easiest to see at work in mathematics and hard sciences. Most schools have structures in place that require certain prerequisites before taking more advanced classes.

Summary of Study Session 9

In this study session, you have learned the following:

- 1) Cognitive development of Piaget and Vygotsky were discussed in this study session and their educational implications were identified.
- 2) The applicability of the principles guiding cognitive development will enhance the teaching and learning process.
- 3) The sensorimotor stage has been broken down into six sub stages that explain the gradual development of infants at this age.
- 4) Mental development is also known as cognitive development. It is basically the construction of mind activity such as thought processes, memory, problem solving and decision making as well as over-all intelligence.

Self-Assessment Question (SAQs) for Study Session 9

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 9.1

Discuss Piaget's theory of cognitive development

What are his stages of development?

Discuss Vygotsky's theory of cognitive development

Study Session 10: Motivation

Introduction

Learners can spend lots of time studying because there is a driving force that makes them act the way they do. The desire to achieve a goal and most often the benefit that accompanies the fulfillment of these goals are usually the driving forces behind most human behaviours. This is simply described as motivation. Motivation can either be internally oriented or externally oriented.

Learning outcomes for study session10

At the end of this study session, you should be able to

10.1 Identify the types and various theories of motivation

10.1 Motivation

Internal and external factors that stimulate desire and energy in people to be continually interested and committed to a job, role or subject, or to make an effort to attain a goal.

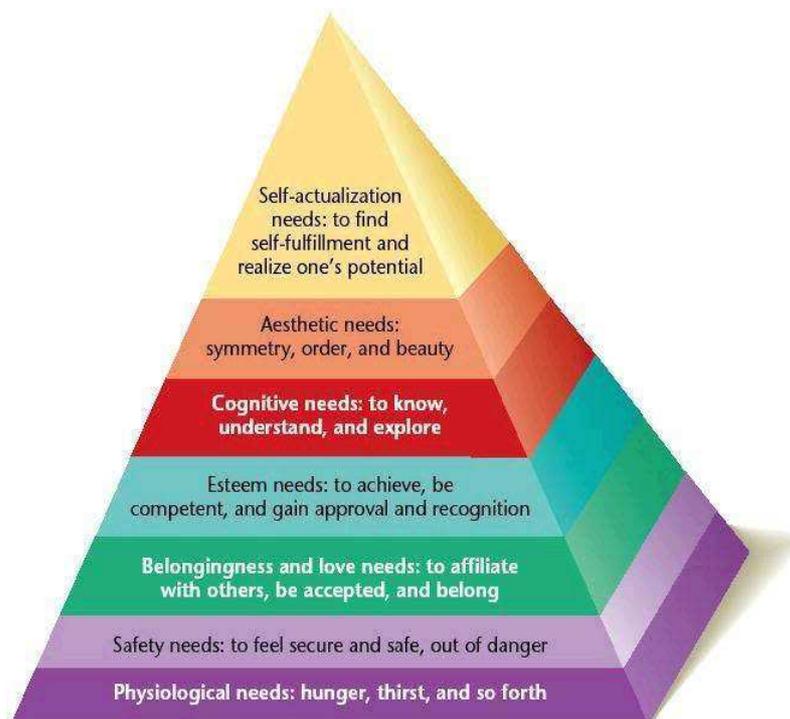
Motivation results from the interaction of both conscious and unconscious factors such as

- (1) Intensity of desire or need,
- (2) Incentive or reward value of the goal, and
- (3) Expectations of the individual and of his or her peers. These factors are the reasons one has for behaving a certain way. An example is a learner that spends extra time studying for a test because he or she wants a better grade in the class

It involves the biological, emotional, social and cognitive forces that activate behaviour. In everyday usage, the term motivation is frequently used to describe why a person does something. For example, you might say that a learner is so motivated to get into a counselling psychology program that she spends every night studying.

Humanistic psychology was instead focused on each individual's potential and stressed the importance of growth and self-actualization. The fundamental belief of humanistic psychology is that people are innately good and that mental and social problems result from deviations from this natural tendency.

Maslow's hierarchy of needs is a theory in psychology proposed by Abraham Maslow in his 1943 paper "A theory of Human Motivation" in Psychological review. He extended the idea to include his observations of human innate curiosity.



Maslow's hierarchy of needs is often portrayed in the shape of a pyramid with the largest most fundamental level of needs at the bottom and the need for self-actualization at the top.

In-Text Question

_____ is defined as the process that initiates, guides and maintains goal-oriented behaviours.

- a) Inspiration
- b) Motivatin

- c) Enthusiasm
- d) Morals

In-Text Answer

- b) Motivation

Educational Implications of Maslow Hierarchy of Needs

The first is to understand that child’s ascension on Maslow’s pyramid plays a profound impact on how learners learn, function, and advance in the classroom setting. Maslow’s pyramid demands that educators no longer see the classroom as something that is separate from the experiences of a child.

Secondly, Maslow’s hierarchy set the stage for the modern classroom tenet of differentiation. Maslow recognizes that different people will be at different points in the needs schematic and will wrestle with these elements at their own pace and in their own progression.



Figure 10.3: Abraham Maslow

Source:

Cognitive Psychology and Motivation - Jerome Bruner (Discovery Learning)

Bruner was one of the founding fathers of constructivist theory. Bruner’s theoretical framework is based on the theme that learners construct new ideas or concepts based upon existing knowledge. Learning is an active process. Facets of the process include

selection and transformation of information, decision making, generating hypotheses, and making meaning from information and experiences.

Educational Implications of Jerome Bruner's Theory

He laid emphasis on the process of education which was a landmark text. This theory had a direct impact on policy formation in the United States and influenced the thinking and orientation of a wide group of teachers and scholars.



Figure 10.4: Jerome Bruner

Source:

His view of children as active problem-solvers who are ready to explore 'difficult' subjects while being out of step with the dominant view in education at that time was accepted by many people. The four key themes in Bruner's process of education are:

Bruner emphasized the role of structure in learning and how it may be made central in teaching. Structure refers to relationships among factual elements and techniques.

He introduces the ideas of "readiness for learning" and spiral curriculum. Bruner believed that any subject could be taught at any stage of development in a way that fit the child's cognitive abilities. Spiral curriculum refers to the idea of revisiting basic ideas over and over, building upon them and elaborating to the level of full understanding and mastery.

He investigated motivation for learning. He felt that ideally, interest in the subject matter is the best stimulus for learning. Bruner did not like external competitive goals such as grades or class ranking.

Murrays Theory of Motivation

Henry Murray's history is anything but a prerequisite for a career in psychology. He earned his bachelor's degree in history in 1915, a medical degree from Columbia in 1919 and then completed a doctorate in biochemistry from Cambridge nine years later.

His start in psychology occurred after reading Jung and eventually arranging a meeting with him. During this meeting, Jung convinced Murray to study psychoanalysis, which he did at Harvard University. After completing his training, Murray actually began teaching psychology and psychoanalytic theory at Harvard, and he remained there for the rest of his professional career.

Although considered a trait theorist, Murray's medical background, combined with his analytical training give a unique flair to his research and writing. This is probably most evident in his development of the Thematic Apperception Test (TAT), a personality test designed to determine personality themes as well as unconscious motivation.

He was focused on basic needs in personality which he called psychogenic needs. He believed these needs were largely at the unconscious level. After researching this area, he narrowed these needs down to 27, although the list and names vary depending on the time frame and the author.

Table10.1: List of psychogenic needs

Domain obstructive	Need for...	Representative behaviour
Ambition	Achievement	To accomplish difficult tasks, overcoming obstacles and becoming expert
Ambition	Recognition *	Describing accomplishments
Ambition	Exhibition	To impress others through one's actions and words, even if these are shocking.
Materialism	Acquisition	Obtaining things
Materialism	Order	To make things clean, neat and tidy
Materialism	Retention	Hoarding things
Materialism	Construction	Building something
Defense of status	Infavoidance	Concealing a handicap or a failing
Defense of status	Defendance	To defend oneself against attack or blame, hiding any failure of the self. Explain or excuse
Defense of status	Counteraction	To make up for failure by trying again, seeking pridefully to overcome obstacles.
Human power	Dominance	To control one's environment, controlling other people through command or persuasion

Domain obstructive	Need for...	Representative behaviour
Human power	Deference	To admire a superior person, praising them and yielding to them and following their rules.
Human power	Autonomy	To break free from constraints, resisting coercion and dominating authority. To be irresponsible and independent
Human power	Contrariance	Being oppositional
Human power	Aggression	To forcefully overcome an opponent, controlling, taking revenge or punishing them
Human power	Abasement	To surrender and submit to others, accept blame and punishment. To enjoy pain and misfortune
Human power	Blame avoidance	Stifling blameworthy impulses
Human power	Harm avoidance	To escape or avoid pain, injury and death.
Human power	Infavoidance	To avoid being humiliated or embarrassed.
Affection between people	Affiliation	To be close and loyal to another person, pleasing them and winning their friendship and attention
Affection between people	Sex	To form relationships that lead to sexual intercourse.

Domain obstructive	Need for...	Representative behaviour
Affection between people	Rejection	To separate oneself from a negatively viewed object or person, excluding or abandoning it.
Affection between people	Nurturance	To help the helpless, feeding them and keeping them from danger
Affection between people	Succorance	To have one's needs satisfied by someone or something. Includes being loved, nursed, helped, forgiven and consoled
Affection between people	Play	To have fun, laugh and relax, enjoying oneself
Exchange of information	Sentience	To seek out and enjoy sensual experiences.
Exchange of information	Cognizance	Understanding: To be curious, ask questions and find answers
Exchange of information	Exposition *	Delivering information to others

Instinct Theory of Motivation

Instinct or **innate behaviour** is the inherent inclination of a living organism towards a particular complex behaviour. The simplest example of an instinctive behaviour is a fixed action pattern, in which a very short to medium length sequence of actions, without variation, are carried out in response to a clearly defined stimulus.

Any behaviour is instinctive if it is performed without being based upon prior experience (that is, in the absence of learning), and is therefore an expression of innate biological factors. Sea turtles, newly hatched on a beach, will automatically move toward the ocean. A joey climbs into its mother's pouch upon being born. Honeybees communicate by dancing in the direction of a food source without formal instruction.

Other examples include animal fighting, animal courtship behaviour, internal escape functions, and the building of nests. All of these are examples of complex behaviours and are thus substantially different from simple reflex behaviours.

Drive Reduction Theory of Motivation

According to such theorists as Clark Hull and Kenneth Spence, drive reduction is a major cause of learning and behaviour. Primary drives are innate drives (e.g. thirst, hunger, and sex), whereas secondary drives are learned by conditioning (e.g. money).

Doris Kraeling and Byron Campbell experimented to determine if “reduction would be more effective as a reinforcer if the initial drive were low than if the initial drive were high.” Their findings are quite surprising: “Changes in stimuli are more discriminable at low levels of stimulus intensity than at higher levels of stimulus intensity”.

Multiple drives are what happen when an organism is faced with more than one need at the same time. Research has shown that this condition has an impact on learning. In psychological vernacular “generalized conditioned reinforce has greater learned reward value than a simple conditioned reinforce” These findings mean that multiple drives lead to quicker learning than a singular drive.

There are several problems that leave the validity of drive theory open for debate.

- The first problem is that it does not explain how secondary reinforcers reduce drive. For example, money does not itself satisfy any biological or psychological need, but it reduces drive on a regular basis by a pay check.
- Secondly, drive reduction theory has trouble explaining why humans and other animals voluntarily increase tension by exploring their environments, even when they are not hungry or thirsty.

Activation-Arousal Theory of Motivation

Also known as 'Arousal Theory', activation theory describes how mental arousal is necessary for effective functioning in that we need a certain level of activation in order to be sufficiently motivated to achieve goals, do good work and so on.

The Yerkes-Dodson Law points out how people need a certain amount of activation to be motivated but not have too much stimulation. We have an upper limit to activation, beyond which we become overly stressed and fall into satisficing.

People will seek activation through different types of stimulation, including novelty, complexity, variation and uncertainty. At a low level of activation, performance is decreased due to three factors:

- 1) A lack of alertness
- 2) Dulling of the senses
- 3) Limited muscular coordination

These in turn can lead to increased error or accident, and slower completion of tasks. Under-activation also leads to boredom and seeking of alternative stimulation (including by sabotage), unless the person has a low activation preference, where they are happy to daydream or otherwise be lazy.

Cognitive Theory of Motivation

Cognitive theories of motivation emphasize the role of thought processes in initiating, maintaining, and guiding behaviour. We use active, conscious, decision making processes to determine both our goals and the means by which we achieve them. In short, thought motivates action (Fodor, 1994).

When the scale says you are 10 pounds overweight, you think about the consequences and decide to go on a diet. These are cognitive processes, and your weight is thus motivated by your cognitions. In this theory, perception is a motivator and there is an important difference between extrinsic motivators.

Perception Motivates Behaviour

In cognitive theories, certain kinds of thought processes can be motivational. Theorist Barnard Weiner (1980) focuses on the role of perception, or cognitive interpretation, in behaviour. Action is motivated by the person's perception of causality-of what is causing outcomes to occur. Weiner hypothesizes three major dimensions of perceived causality, which he calls locus, stability, and controllability.

In-Text Question

_____emphasize the role of thought processes in initiating, maintaining, and guiding behaviour.

- a) Piaget theories and development
- b) Vygotsky theories
- c) Theories of Intelligence
- d) Cognitive theories of motivation

In-Text Answer

d) Cognitive theories of motivation

Extrinsic and Intrinsic Motivation

Motivation can come from outside or inside the person. Extrinsic motivation comes from the external environment and typically takes the form of rewards, such as grades on testes, money, and social praise. Such external rewards are useful because they can act to modify behaviour, strengthen existing behaviour, increase self-esteem, and provide helpful information about performance. Getting a B on a test, for example, can reward

you for your hard work (it's better than a C) and also cause you to study harder in order to get an A on the text exam.

Summary of Study Session 10

In this study session, you have learned the following:

Motivations are the driving force behind human behaviours. This study session discussed the concept of motivation, the various types and the theories of motivation. The educational implications for each theory were identified.

Self-Assessment Question (SAQs) for Study Session 10

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 10.1

What is motivation?

Identify the types of motivation

Briefly discuss the various theories of motivation

Study Session 11: Intelligence

Introduction

People display effective and intelligent behaviour in many ways but not in the same way. An individual may be able to display intelligent moves in athletics but not flexible in dancing or intelligent in carrying out scientific researches. This however does not mean that the individual is not intelligent.

A display of intelligence differs in all areas of life and expertise. This indicates that no single test either verbal or quantitative can clearly measure intelligence in an individual. This explains why many psychologists use a variety of tests to measure different constructs in an individual.

Learning outcome

At the end of this study session, you should be able to

11.1 Define intelligence

11.2 Explain the various theories of intelligence

11.3 Identify the various types of intelligent test

11.1 Intelligence

Human beings are intelligent species capable of thinking about the past, predicting the future and using these abilities for either good or evil. Great potentials are embedded in human beings that enables them create outstanding inventions, display great communication skills, and accomplish very enormous tasks that are beyond the imagination of some people.

Intelligence is defined as the overall capacity of an individual to act purposefully, to think rationally and to deal effectively with the environment. Intelligence in this context is expressed behaviourally because it is shown in a person's actions and ability to learn new things and to use previously learned knowledge.

Intelligence has to do with a person's ability to adapt to the social and cultural environment. Intelligence has also been described as a term of one's capacity for logic, abstract thought, understanding, self-awareness, communication, learning, emotional knowledge, memory, planning, creativity and problem solving.

It is further seen as general cognitive problem solving skills. A mental ability involved in reasoning, perceiving, relationships, calculating etc.

In-Text Question

Intelligence as the overall capacity of an individual to act purposefully, to think rationally and to deal effectively with the _____.

- a) Environment
- b) People
- c) Society
- d) Individual

In-Text Answer

- a) Environment

11.2 Theories of Intelligence

The manner to which individuals display an act of intelligence differs from individuals. This explains why many psychologists are interested in knowing if intelligence is a singular construct or it has many more or less independent components. This quest has given birth to different theories of intelligence which is discussed below;

- Faculty theory
- Factor theory
- Two-factor theory
- Thurstone theory

➤ Thorndike's multi-factor theory

11.2.1 Faculty theory

It is the oldest theory regarding the nature of intelligence and flourished during 18th and 19th century. According to this theory, mind is made up of different faculties like reasoning, memory, discrimination, imagination, etc.

These faculties are independent of each other and can be developed by vigorous training. Faculty Theory had been under criticism by experimental psychologists who disproved the existence of independent faculties in the brain.

In-Text Question

Which of the following theories that can be developed by vigorous training?

- a) Faculty theory
- b) Factor theory
- c) Two-factor theory
- d) Thurstone theory

In-Text Answer

a) Faculty theory.

11.2.2 Factor theory

Factor theories of intelligence use a correlation technique known as factor analysis to explore what makes up intelligence. Factor analysis is a statistical procedure designed to discover the independent factor in any set of data.

As it relates to intelligence, factor analysis attempts to find a cluster of items that measure a common ability. Results of tests of verbal comprehension, spelling and reading speed for example, usually correlate highly, suggesting that some underlying attribute of verbal abilities determines a person's score on those three tests.

11.2.3 Two-factor theory

Charles Spearman in the early 1900s, used factor analysis to show that intelligence consist of two parts which are; a general factor affecting all tasks, of which he referred to them as the 'g factor' and the specific factor associated with particular tasks.

Spearman believed that for a successful performance of any task, some amount of both the general factor and the appropriate specific factors were required. This view of intelligence is what is referred to as the two-factor theory.

11.2.4 Thurstone theory

Louis Thrustone (1887-1955) described intelligence as a person's pattern of mental abilities or a cluster of abilities. He is of the opinion that intelligence as a mental trait has seven mental abilities as oppose to Spearman's theory. These mental abilities include;

verbal comprehension, word fluency, number facility, spatial visualization, associative memory, perceptual speed and reasoning.

Thurstone's theory as a factor theory of intelligence included a computational scheme for sorting out these seven factors. This theory is generally not accepted because many psychologists believe that there is a general factor of intelligence of which cannot be separated into distinct parts that accounts for specific abilities, rather, the same overall factor accounts for success in both academic work and other pursuits (Kranzler, 1997).

11.2.5 Thorndike's multi-factor theory

Thorndike believed that there was nothing like General Ability. Each mental activity requires an aggregate of different set of abilities. He distinguished the following four attributes of intelligence:

Level—refers to the level of difficulty of a task that can be solved.

Range—refers to a number of tasks at any given degree of difficulty.

Area—means the total number of situations at each level to which the individual is able to respond.

Speed—is the rapidity with which we can respond to the items

In-Text Question

The following are Thorndike's attributes of intelligence EXCEPT.

- a) Level
- b) Range
- c) Area
- d) Distance

In-Text Answer

- e) Distance

11.3 Application of intelligence test

Intelligence testing is of great importance to schools, clinics, and research laboratory in the study and adjustment of children and adults. In schools, many educational psychologists have employed various psychological tests to investigate or detect educational problems affecting the schools in recent times.

Intelligence testing have been effective in helping clinical psychologist, mental hygienist determine the mental status of patients and subjects, in predicting mental growth, in formulating therapeutic measures, in the disposition of criminal and delinquent cases.

Measures of intelligence have assisted many industries, civil services, universities and other professions in the recruitment of proficient personnel suitable for their establishments and organizations.

Various measures of intelligence testing have proven its value for the study of mental development from infancy to adulthood, in order to determine the interrelationships of intellectual qualities, for determining the distribution and central tendencies of intelligence in population groups. And the range of individual differences in age, sex, and racial groups, for establishing the relation between mental and physical qualities, and for studying the gifted and subnormal individuals in the general population.

11.3.1 Types of intelligence test

There are various types of intelligence test, but we shall examine four of them;

- **Stanford-Binet** Intelligence Scale
- Wechsler Scales
- Kaufman Assessment Battery for Children
- Woodcock Johnson III Test
- Reliability
- Validity

1. Stanford-Binet Intelligence Scale

This test was developed in 1905 by Binet and Simon. The original test was actually 30 short tests arranged in order of difficulty and it included tasks such as distinguishing food from nonfood and pointing to objects and naming them. The Binet-Simon scale leaned heavily towards verbal questions which were not standardized.

2. Wechsler Scales

David Wechsler in 1932 discovered that Binet-Simon intelligence scale was inadequate for testing adults and it also lacked validity. In 1939, Wechsler developed the Wechsler Bellevue Intelligence Scale to test adults; he also developed the Wechsler Intelligence Scale for Children (WISC) which covers children of ages 6 to 16. Wechsler's scale was said to be more organized and many studies have confirmed its reliability and validity.

3. Kaufman Assessment Battery for Children

The Kaufman Assessment Battery for Children by Alan and Nadeen Kaufman is said to have incorporated tasks that taps the experiences of all individuals, regardless of background. A memory task for instance might ask a child to look at a picture of a face and for a few moment, to pick it out from among pictures of other faces. This scale was designed especially for assessment of school problems.

4. Woodcock Johnson III Test

This test is designed to measure general intellectual ability, special cognitive abilities, scholastic aptitudes, oral languages, and academic achievement. It consists of subparts and it is one of the most comprehensive tests available. Its strengths are that it measures and evaluates domain-specific skills with related cognitive abilities as well as traditional ability or achievement discrepancies; it is a useful diagnostic tool and can be used across the life span.

5. Psychometric properties of a test

The psychometric properties of a psychological test refers to the data collected on the test to determine how well it measures the constructs it is designed to measure. The psychometric properties of a test include the reliability and the validity of a test.

6. Reliability

Reliability refers to the consistency of the test scores. This simply implies the test's ability to produce very similar scores for the same individual over repeated testing.

7. Validity

Validity refers to the ability of a test to measure what it is designed to measure and predict what it is supposed to predict.

Types of Validity

- **Content validity:** this is the test's ability to measure the knowledge or behaviour it is intended to measure, which is based upon a detailed examination of the contents of the test items.
- **Predictive validity:** the ability to predict a person's future achievements with at least some degree of accuracy.
- **Face validity:** this is the extent to which a test's appropriateness can be gauged by reading or examining the test items.
- **Construct validity:** this is the extent to which a test actually does measure the particular quality or trait it is supposed to measure, such as intelligence, anxiety, or musical ability.

11.4 Factors Affecting Intelligence

There are certain factors internal and external, that could either facilitate the level of intelligence of an individual or hamper the development of intellectual capacities in an individual. Some of these factors include;

Hereditary Factors: Heredity refers to genetically transmitted characteristics from generation to the next. We inherit genetic code from parents. Because of genetic code, a fertilized human egg never grows into a dog or a mouse or any other animal. Person's genetic heritage is called genotype. Intelligence can be transferred through the genes from parents to the children.

Environmental Factors: Heredity alone cannot account for all the individual differences in intelligence. Environment also has a role to play. Environment consists of a wide range of stimulations that the child is subjected to. He lives and grows in his environment. It provides him the necessary input and experiential base for intellectual development. Enrichment or deficiency of the environment would obviously produce differences in his abilities.

Parental Factors: The prenatal stage is extremely important as a fertilized egg is shaped the form of a human being during this period. Rapid development takes place in major organs and brain cells. If things go wrong during this period, the effects are nearly irreversible or are very difficult to correct.

The major prenatal environmental influences are:

- Mother's nutrition,
- Mother's emotional state,
- Illness of the mother,

- Mother's use of drugs,
- Birth complications.

An undernourished mother cannot provide adequate nutrition to the growing baby. As a result, the baby is likely to be underweight, and more susceptible to diseases. Lack of nutrition would have an adverse impact on the mental development of the child. Mothers who are anxious and tense are also likely to deliver infants who would be irritable and show problems in sleeping and eating.

In-Text Question

Which of the following best explain that characteristics is genetically transmitted from generation to the next.

- a) Parental factors
- b) Environmental factors
- c) Hereditary factors
- d) Human factors

In-Text Answer

c) Hereditary Factor

Postnatal Environment: When we speak of environmental determinants of intelligence, we ordinarily mean the environment the child faces after he is born. Environment consists of a heterogeneous array of stimulations ranging from home experiences to the ecology of the natural habitat. Enriched environment accelerates cognitive development, while impoverished environment produces just the opposite effect.

Home environment: Home is the first learning institution for the child during his early years of development and it also exercises tremendous influence on child's understanding of the external world, and his conceptions of success and failure. The home provides an identity for the child, builds his self-concept, and prepares him to face the world.

Socioeconomic status (SES): Children of the upper socioeconomic strata of the society are exposed to more intellectual stimulation, get better social opportunities, and are nurtured with better nutrition. All these are believed to influence their intellectual development in a positive direction. The index of socioeconomic status (SES) is based on parental education, occupation, and income. The higher is the socioeconomic status of the parents, the higher is the average IQ of children.

Summary of Study Session 11

In this study session, you have learned the following:

- This Study session examined intelligence, the theories associated with intelligence, the various measures and the applicability of psychological test as well as the factors that could affect intelligence.
- Intelligence testing have been effective in helping clinical psychologist, mental hygienist determine the mental status of patients and subjects, in predicting mental growth, in formulating therapeutic measures, in the disposition of criminal and delinquent cases.
- Heredity refers to genetically transmitted characteristics from generation to the next.
- Heredity alone cannot account for all the individual differences in intelligence.
- The prenatal stage is extremely important as a fertilized egg is shaped the form of a human being during this period
- When we speak of environmental determinants of intelligence, we ordinarily mean the environment the child faces after he is born

Self-Assessment Question (SAQs) for Study Session 11

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 11.1

What is intelligence?

SAQ 11.2

Briefly discuss the various theories of intelligence.

SAQ 11.3

Highlight the various types of intelligence test

Identify the factors that affect intelligence

Study Session 12: Memory

Introduction

When the term “Memory” is mentioned, what strike your mind is the human brain, because every day you access information, you see events unfold and have some experiences, although these information and experiences are not entirely utilized, they are stored up in a storage system and retrieved when required.

Memory is the ability to recall past events, images, ideas, or previously learned information or skills. In the natural scenarios, we purchase items we readily do not need, but may have to store them up for future use when required.

Learning outcomes for study session 12

At the end of this study session, you should be able to

12.1 Describe the concept and types of Memory

12.2 Define Forgetting

12.1 Memory

Memory is the process in which information is encoded, stored, and retrieved. Encoding allows information from the outside world to be sensed in the form of chemical and physical stimuli. In the first stage the information must be changed so that it may be put into the encoding process. Storage is the second memory stage or process.

The term memory can be seen as both ability and a process. Memory will enable you to recall past events, images, ideas, or previously learned information or skills; the storage system that allows for retention and retrieval of previously learned information. It can also be defined as a process in which information is encoded, stored and retrieved.

Storage

Storage can be defined as the process of maintaining or keeping information readily available. It also refers to the locations where information is held, and this can be called memory stores. It is the second memory stage or process. This implies that information is maintained over a period of time. Information can be stored in three varying stages:

- ✚ **Sensory memory** which is a very brief storage based. Instances are; when you look at a picture, hear a song, and touch a piece of cloth. Information stored here should be transferred or else it will be lost.
- ✚ **Short-term memory** refers to memory that lasts for less than a minute. Information gathered from the sensory memory is transferred to the short-term memory to avoid immediate loss.
- ✚ **Long-term memory** is the storage mechanism that keeps a relatively permanent record of information. The information here is unlimited or indefinite; it lasts for lifetime. However, if you must remember information for a long time, you need to understand them.
- ✚ **Retrieval:** Retrieval is the process by which information stored is recovered from memory. It is a recall of information that we have stored in our memory. This must be located and returned to our consciousness. Such as recalling your list of names, the details of an assignment. These stages could simply mean;
 - i Encoding or registering, receiving, processing and a combination of received information.
 - ii Storage: creation of a permanent record of the received information.
 - iii Retrieval, recall or recollection: bringing back the stored information in response to come cue for use in the process or activity.
 - iv Hence, a person must be able to retrieve stored information and use it in a meaningful way.

12.1.1 Factors that Aid Storage and Retrieval

Repeatedly urge learners to remember: This should be done in form of learner activity, where learners tell themselves that they need to recall the lesson learnt. For instance, overlearning aids memory because it makes what is learnt to register and remain permanently in the brain.

Comprehension, not mere mastery of facts: Learners should be instructed to use more of the words and solutions to problems rather than mere facts. They should be able to make out meaning from what is taught, organise and assimilate.

Provide distributed rather than mass practice and insure that overlearning occurs: Learners should be encouraged to review periodically learnt topic than cramming it because they may forget them if they miss any line of the crammed lesson. Constant review will help learner to avoid cramming. This will require constant review, which are dogmatic or formal, could be quiz, assignment etc. Evocative review is an outstanding means to overcome loss of lesson.

In-Text Question

_____ can be defined as the process of maintaining or keeping information readily available.

- a) Storage
- b) Memory
- c) Retrieval
- d) Brain

In-Text Answer

a) Storage.

12.2 Forgetting

Forgetting as you may understand, is the apparent loss or modification of information already encoded and stored in an individual's long term memory. It is a spontaneous or a gradual process in which old memories are unable to be recalled from memory storage.

Forgetting also helps to reconcile the storage of new information with old knowledge. Problems with remembering, learning and retaining new information are a few of the most common complaints of older adults.

For example, if a learner is taught the Almighty formula in solving a mathematical problem, then a question similar to previous learnt work is given in an examination and the learner fails to remember the required step in solving such question using the Almighty formula; such a learner is said to be forgetful.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Figure 12.1: Almighty Formula

Studies show that retention improves with increased rehearsal. This improvement occurs because rehearsal helps to transfer information into long term memory practise makes perfect.

This explanation of forgetting in short term memory assumes that memories, leave a trace in the brain. A trace is some form of physical and or chemical change in the nervous system. Trace decay theory states that forgetting occurs as a result of the automatic decay or fading of the memory trace.

Forgetting is also referred to as the loss of previously acquired material from memory

12.2.1 Causes of forgetting

Two processes decay and interference affect both short-term and long-term memory.

- **Decay of information:** this is the loss of information from memory as a result of disuse and the passage of time. Therefore, in order to avoid this, you have to practise whatever you learn in class. If you are being taught a topic on personal hygiene, you need to practise them so as not to forget.
- **Interference in memory:** In memory, proactive and retroactive interference occur when information interferes with (inhibit recall of) other information.

Proactive inhibition is the decrease in accurate recall of information as a result of the subsequent presentation of different information is known as retroactive inhibition. While the decrease in accurate recall of different information, is known as retroactive inhibition.

12.2.2 Types of Forgetting

- Motivated forgetting – sometimes efforts are made to forget the traumatic or unpleasant experience.
- Amnesia – the inability to remember information within a specific period, usually due to physiological trauma.
- Absent mindedness – occurs when you do not pay attention to anything. E.g. if you are not conscious of where you kept your pen, how will you remember where it is.

- Forgetting as disuse or fading: This occurs when learners learn something and not use it, there is tendency to forget it. For example: If a learner is taught spellings, if he/she does not use it over a big period time, he may not remember again.
- Forgetting because of intelligence: This happens when a new learning interferes with a past learning.
- Forgetting because of extinction and reorganization: Learners forget because the information learnt is not in use and there is no reinforcement.

In-Text Question

The loss of information from memory as a result of disuse and the passage of time is called?

- a) Loss of information
- b) Crash of information
- c) Memory decay
- d) Decay of information

In-Text Answer

d) Decay of information:

12.2.3 Attention

Attention is the behavioural and cognitive process of selectively concentrating on one aspect of the environment while ignoring other things. The ability to remain focused on a particular thing at a time.

Factors that Enhances Attention in Class

Voice as an effective classroom tool: the ton, volume and expression in your voice when introducing new concept can trigger interest and curiosity in learners. The following factors enhance Attention in Class:

- ❖ Humour in the classroom: this reduces stress and anxiety in the learners.
- ❖ Cooperative groups' and learner involvement: this encourages learners to complete a given task.
- ❖ Modify the scenery- changing the seating arrangement and desks could arouse inquisitiveness.

- ❖ Create a safe environment: it is important that learners are free from intimidation and threats.

Summary of Study Session 12

In this study session, you have learned the following:

- The human storage system which is referred to as memory is the main focus of this study session. The various types of memory were examined. The inability of the human storage system to retrieve what was stored in it is referred to as forgetting.
- Forgetting is also referred to as the loss of previously acquired material from memory.
- Attention is the behavioural and cognitive process of selectively concentrating on one aspect of the environment while ignoring other things.
- Humour in the classroom: this reduces stress and anxiety in the learners.

Self-Assessment Question (SAQs) for Study Session 12

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 12.1

What is memory?

SAQ 12.2

Describe the types of forgetting

What is proactive inhibition and retroactive inhibition?

Identify the factors that enhances attention

Study Session 13: Thinking Skills and Adolescent Development

Introduction

Human beings are logical beings because they have the capacity to reason, calculate and analyze people, event and circumstances. Every individual at one point in life are expected judgments, classify ideas and solve problems. This can be achieved only if the individual is able to think analytically.

Also you will learn the period of adolescence is usually a turbulent stage, characterized by certain developmental changes. This transition from childhood to adulthood occurs between the ages of 12 to 20, bringing about dramatic cognitive, social, and emotional changes.

Learning outcomes for study session 13

At the end of this study session, you should be able to

13.1 Explain Blooms Taxonomy

13.2 Explain Gardner's theory of multiple intelligence

13.3 Discuss the educational implication of Gardner's theory

13.1 Define and theories of Adolescence

13.1 Bloom Taxonomy

Thinking skills are skills and strategies that enable learners to adapt to constant change. Critical thinking is the process of using reason in g to discern what is true and what is false. It also comprise the mental processes, strategies and representation people use to solve problems, make decision and learn new concepts.

This was initiated by Benjamin bloom in 1956. The main purpose of this taxonomy is to provide a classification of the goals of our educational system. It consists of three major sections covering the cognitive, the affective, and the psychomotor domain.

The cognitive taxonomy is classified into six major classes:

- Knowledge – recall of specific facts.
- Comprehension – understanding what is communicated.
- Application - generalization and use of abstract information in concrete situations.
- Analysis - breaking down of information into parts or bits.
- Synthesis – compiling information in a different way.
- Evaluation - using criteria to make judgments.

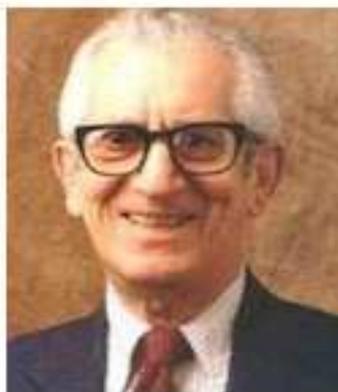


Figure13.1: Benjamin S. Bloom

Source:

13.2 Gardner's Theory of Multiple Intelligence

Howard Gardner proposed that there are multiple types of intelligence, arguing that traditional intelligence tests do not measure them. Gardner is of the opinion that human competencies, of which there are many, do not lend themselves to measurement on a standard test. His stand is that people have multiple intelligence i.e. an intelligence which he defined as the ability to solve a problem or create a product within a specific cultural

setting. According to Gardner, seven criteria are necessary for behaviour to be considered as intelligent. These intelligences will show:

- 1) Potential for brain isolation by brain damage.
- 2) Place in evolutionary history.
- 3) Presence of core operations.
- 4) Susceptibility to encoding.
- 5) A distinct developmental progression.
- 6) The existence of exceptional populations.
- 7) Support from experimental psychology and psychometric findings.

Gardner believes that his theory of multiple intelligences should empower learners, not restrict them to one modality of learning.

The Seven Intelligences

- I. Gardner identified seven intelligences that are relatively autonomous.
- II. Linguistic intelligence - this has to do with words and languages.
- III. Musical intelligence – has to do with sensitivity to sound, tones and music.
- IV. Logical-mathematical intelligence - being able to reason and be logical in thinking.
- V. Spatial intelligence – this deals with the ability to visualize with the mind’s eye.
- VI. Bodily-kinesthetic intelligence – the ability to control one’s bodily motions and the capacity to handle objects skillfully.
- VII. Interpersonal intelligence – deals with social skills; i.e. interaction with others.
- VIII. Intrapersonal intelligence – having a deep understanding of one’s self.



Figure 13.2: Howard Gardner

Table 13.1: The seven types of Intelligence

Types of Intelligence	Exemplar	Core components
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Linguistic	Poet, Journalist	Sensitivity to the sound, rhythms, and meanings of words; sensitivity to the different functions of language.
Logical-mathematical	Scientist, Mathematician	Sensitivity to and capacity to discern logical or numerical patterns; ability to handle chains of reasoning
Musical	Composer, Violinist	Ability to produce and appreciate rhythms, pitch, and timbre; appreciation of the forms of musical expressiveness
Spatial	Navigator, Sculptor	Capacity to perceive the visual-spatial world accurately and to perform transformations on initial perceptions
Bodily-kinesthetic	Dancer, Athlete	Ability to control bodily movements and to handle objects skillfully
Naturalist	Botanist, Chef	Ability to make fine discrimination among the flora and fauna of the natural world or the patterns and designs of human artifacts
Interpersonal	Therapist, Sales person	Capacity to discern and respond appropriately to the moods, temperaments, motivations, and desires of other people
Intrapersonal	Person with detailed accurate, self-knowledge	Access to one's own feeling and the ability to discriminate among them and draw on them to guide behaviour; knowledge of one's own strengths, weakness, desires and intelligence

13.3 Implications of Gardner's Theory of Multiple Intelligence

Howard Gardner viewed intelligence as 'the capacity to solve problems or to fashion products that are valued in one or more cultural setting' (Gardner & Hatch, 1989). He reviewed the literature using seven criteria or 'signs' of an intelligence:

- Potential isolation by brain damage. The existence of idiots savants, prodigies and other exceptional individuals.
- An identifiable core operation or set of operations.
- A distinctive development history, along with a definable set of 'end-state' performances.
- An evolutionary history and evolutionary plausibility.
- Support from experimental psychological tasks.
- Support from psychometric findings.
- Susceptibility to encoding in a symbol system.

As educators, evaluation and assessment of learners should not be limited to logical (mathematical) and linguistic (verbal) intelligence, rather it should encompass the totality of all intelligences which are musical, spatial, intrapersonal, and interpersonal intelligences.

Furthermore, educators should endeavour to become assessment specialists. An educator can strive to search for strengths in learners indicating a high level of spatial and personal intelligences. He is of the opinion that teachers use different methodologies, exercises and activities to reach all learners.

In addition, teachers should take cognisance of individual differences among the children, taking note of the fact that their abilities and interests differ. Finally, teachers should recognise the different talents and skills of learners and endeavour to teach in a broader way.

13.3.1 Adolescents

When you reach adolescence, you have become used to being treated as a child and you are accustomed to the privileges associated with that role. Then, over a relatively short period of time you reach puberty, which brings about bodily changes.

And you also have to adjust to the emotional and psychological changes which accompany your new role as a young adult. You have to somehow reinvent yourself even as all these changes are taking place and hope that you get it right.

Early approaches to understanding adolescence put forward the view that it was always a problematic time. It was expected that teenagers would have mood swings, be temperamental, and experience emotional disturbances.

More recent theories have challenged this traditional view and it is now widely accepted that many teenagers pass through this period quite smoothly. Often, it is a time when teenagers develop richer and more meaningful relationships with their parents and other adults, and they may come to trust them more.

By studying this, you will learn to understand issues unique to teenagers, how to distinguish the problem behaviour from typical or normal behaviour, and how to respond to teenagers more appropriately.

Build your confidence and skills to deal with adolescents. This is aimed at people working in youth work, child and adolescent counselling, schools, child psychology or other caring roles. It will also be of great interest to parents of teenagers and those who deal with teenagers in their daily lives.

Adolescence is a stage of sudden development or bodily changes in adolescents. It is the transition period between childhood and adulthood. This period is most closely associated with the teenage years. It is a time of development and consolidation of the social self, of one's identity and understanding of one's social environment.

Thus, who is an adolescent? An adolescent is a young adult that is neither a child nor an adult. He/she is someone going through the period of adolescence.

13.3.2 Physical Development of Adolescents

During adolescence, young people go through many changes which are physical in nature, listed below are the changes in adolescence stage:

- 1) Physical Development
- 2) Intellectual Development
- 3) Emotional Development
- 4) Sexuality
- 5) Social Development
- 6) Moral Development
- 7) Delinquency and Crime
- 8) Adolescents and the Transition to Adulthood

Physical Development

- # What is Puberty
- # Puberty in Females
- # Puberty in Males
- # Hormonal Control of Puberty
- # Factors Affecting Age of puberty
- # Obesity, etc

Intellectual Development

- # Piaget's Formal Operations Stage
- # Cognitive Development and Behavioural Changes
- # School Problems
- # Information Processing
- # Decision Making
- # Brain Development
- # Assessing Intelligence, etc.

Emotional Development

- # Freud's Theories
- # Emotional Problems (Depression, Eating)
- # Role of the Family
- # Grief and Teenagers
- # Typical Childhood Response to Grief
- # Supporting a Grieving Child

Sexuality

- # Acquisition of Gender Identity
- # Sex Role Identity
- # Vicarious Learning and Sexual Identity
- # Gender Identity Disorders
- # Curiosity
- # Homosexuality
- # Sexual Behaviour
- # Nudity, etc

Social Development

- # Family Influence
- # Denigration of Parents
- # Influence of Peers

- ✚ Popularity
- ✚ Shyness
- ✚ Dating, etc

Moral Development

- ✚ Piaget's Theory of Moral Development
- ✚ Kohlberg's Theory of Moral Reasoning
- ✚ Role of Family in Moral Learning
- ✚ Other Factors Affecting Moral development, etc.

Delinquency and Crime

- ✚ Pathways to Delinquency
- ✚ Gangs
- ✚ Case Studies
- ✚ Behavioural Problems (Drugs, etc)
- ✚ Child Abuse, etc.

Adolescents and the Transition to Adulthood

- ✚ Transition to Adulthood
- ✚ Career Development, etc.

Characteristics of adolescent physical development include:

- Restlessness and fatigue due to hormonal changes.
- A need for physical activity because of increased energy.
- Developing sexual awareness and often touching and bumping into others.
- A concern with changes in body size and shape.
- Physical vulnerability resulting from poor health habits or engaging in risky behaviour.

Cognitive development of adolescents

Adolescence is a time of rapid cognitive development. An adolescent begins to think and reason in a wider perspective.

Characteristics of adolescent intellectual development include:

- Moving from concrete to abstract thinking.
- An intense curiosity and wide range of intellectual pursuits, few of which are sustained over the long term.
- High achievement when challenged and engaged.
- Preferences for active over passive learning experiences.
- Interest in interacting with peers during learning activities.
- An ability to be self-reflective.

13.3.3 Social and Emotional Development of an Adolescent

An adolescent at this stage begins to form identities. They become aware of themselves and their opposite sex. It is a period of sexual maturation for an adolescent.

Characteristics of adolescent social development include:

- Modelling behaviour after that of older learners, not necessarily that of parents and other adults.
- Immature behaviour when social skills lag behind mental and physical maturity.
- Experimenting with ways of talking and acting as part of searching for a social position with peers.
- Exploring questions of racial and ethnic identity and seeking peers who share the same background.

- Exploring questions of sexual identity in visible or invisible ways.
- Feeling intimidated or frightened by the initial middle school experience.
- Liking fashion and being interested in popular culture.
- Overreacting to ridicule, embarrassment and rejection.
- Seeking approval of peers and others with attention-getting behaviours

Characteristics of adolescent emotional and psychological development include:

- Mood swings marked by peaks of intensity and by unpredictability.
- Needing to release energy, with sudden outbursts of activity.
- A desire to become independent and to search for adult identity and acceptance.
- Concern about physical growth and maturity.
- A belief that their personal problems, feelings and experiences are unique to themselves.

13.4 Theories of Adolescence

These are many theories of adolescent development. These varying theories explain all aspects of adolescence. They include:

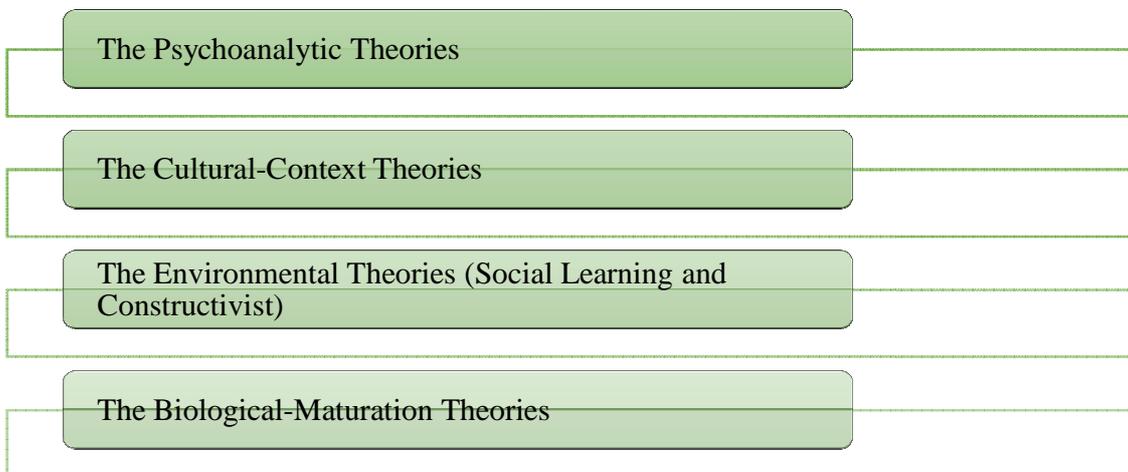


Figure 13.3: Theories of Adolescence Development

13.4.1 The Biological-Maturation Theories

This theory was propounded by Stanley Hall in 1904. He is of the opinion that adolescence begins with the biological changes is associated with puberty. The ‘ontogeny’ i.e. individual development is a brief and rapid outline of ‘phylogeny’ i.e. the

evolutionary development of the human race. Thus, it reflects developments from childhood through adolescence to adulthood and the evolution of man from early stage through the primitive men to the modern man.

Hall is of the view that the period of adolescence is a time of 'storm and stress'. This period of storm and stress is full of contradictions and wide swings in mood and emotion. Thoughts, feelings and actions fluctuate between humility and conceit, goodness and temptation.

At one moment, an adolescent may be nasty to a peer and in the next moment, be extremely nice to her; he/she may feel like being alone but shortly after he desires to be in the midst of people.

13.4.2 The Environmental Theories (Social Learning and Constructivist)

Social learning theory consists of rather diverse thoughts that range from Clark Hull's drive reduction theory, to Skinner's reinforcement theory to Freud's psychoanalytic theory. Social learning theory is multidimensional; it draws concepts, hypothesis and methodology from a variety of different psychological sources.

In social learning theory, modelling and observation are the most important, although, it also picked some constructs of behaviourist theory like reinforcement.

Therefore, social learning theories lay emphasis on the contributions of relationships to personality development, apart from the connection between a stimulus and response. Albert Bandura, the leading theorist here, initiated the view that cognition, social conduct and environment play a primary role in human behaviour.

The whole of socialization processes which include imitation, modelling, instruction, reward and punishment through which children learn and contribute, often through indirect teaching is suitable for investigation.

In-Text Question

An adolescent is a young adult that is neither a child nor an adult. True\False

- a) False
- b) True
- c) None
- d) All of the above

In-Text Answer

- b) True

13.4.3 The Cultural-Context Theories

Margaret Mead postulated the cultural-context theories. She argued that adolescence period is not a biological developmental stage, characterized by storm and stress as stipulated by Hall. Rather, she tried to resolve the controversy in Pago-Samoa in the West Indies in 1925.

Based on her findings, she concluded that the disturbances experienced by adolescents are culturally specific and not universal. To her, the transition to adulthood is smooth and not affected by conflict.

In-Text Question

_____ theory was propounded by Stanley Hall in 1904.

- a) The environmental theories
- b) Cultural-Context theories
- c) Biological-Maturation Theories
- d) Psychoanalytic theories

In-Text Answer

- c) Biological-Maturation Theories

13.4.4 The Psychoanalytic Theories

Sigmund Freud pioneered the psychoanalysis theory. He regarded childhood as the most formative periods of human development. He opined that personality depend largely on how the sexual instinct (ID) and the ego and superego have been formed during the formative years of childhood.

It emphasizes on the satisfaction of needs for instance, the sexual impulses and hunger. The EGO is the psychosocial i.e. the reality principle trying to control the ID. The SUPEREGO which is social in nature is the home of norms and ethical values of society and tries to fill in the gap between ID and EGO. The SUPER EGO comprises of conscience and ego-ideal.

Summary of Study Session 13

In this study session, you have learned the following:

- 1) Critical thinking was the focus of this session. Blooms taxonomy and Gardner's theory of multiple intelligence were examined as well as their educational implications.
- 2) Thinking skills are skills and strategies that enable learners to adapt to constant change.
- 3) Critical thinking is the process of using reasoning to discern what is true and what is false.
- 4) It also comprises the mental processes, strategies and representation people use to solve problems, make decision and learn new concepts.

Self-Assessment Question (SAQs) for Study Session 13

Now that you have completed this study session, you can assess how well you have achieved its Learning outcomes by answering the following questions. Write your answers in your study Diary and discuss them with your Tutor at the next study Support Meeting. You can check your answers with the Notes on the Self-Assessment questions at the end of this Module.

SAQ 13.1

Discuss Blooms Taxonomy.

SAQ 13.2

Explain Gardner's theory of multiple intelligence

What are the educational implications of Gardner's theory?

SAQ 13.4

Describe the social development of adolescents

What are the physical changes that adolescents experience?

Discuss briefly the theories of adolescence.